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ABSTRACT

The purpose of the study was to develop and try out two forms of a short (40-50 item) diagnostic test in five skill areas (Library Use; Dictionary Use; Use of References; Reading Graphs and Tables; Reading Maps) for use in Grades 4, 5, and 6, and designated as research study skills. A related problem was the development of five short (31-44 item) diagnostic tests, one in each of the five skill areas, to be used to confirm diagnoses suggested by the first test. (Author/AG)

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James Harlan Shores
The Board of Trustees
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Development of the diagnostic instruments for research-study skills that was the sole intent of this study would not have been possible without the fine cooperation of several public school systems and the College of Education at the University of Illinois.

Special acknowledgment is due Miss Blanche Martin, Director of Elementary Education, and many teachers, principals and students in the Rockford, Illinois public schools. These schools provided the majority of the student population for nearly all of the steps in test development.

When the various instruments were in the early stages of try-out, the Park Forest, Illinois and Livingston, Alabama public schools were very cooperative in providing portions of the student population.

Throughout the study the College of Education at the University of Illinois provided funds, encouragement, and consultative help. Dr. J. Thomas Hastings, Director of the Center for Instructional Research and Curriculum Evaluation was especially generous with his time and helpful advice.

SUMMARY

The problem was to develop and try out two forms of a short (45 to 50 item, 45 minute) diagnostic test in five skill areas (Library use; Dictionary use; Use of references; Reading graphs and tables; Reading maps) for use in grades four, five and six and designated as research study skills. A related problem was the development of five short (31 to 44 item, 30 minute) diagnostic tests, one in each of the five skill areas, to be used to confirm diagnoses suggested by the first test.

Items for Form A of the original diagnostic measure were developed from experiences in teaching research-study skills in grade six and from analysis of scores and errors on published and examiner-made achievement tests in these skill areas. The items, nearly three times the number needed, were tested with 120 fifth-grade students in individual test-interview situations of approximately 20 minutes each. Teachers selected from their classes six students (two judged to be high in a particular skill area, two average, and two low) for test-interview. Items where performance was in keeping with the judgments of the teachers were given high priority in selection for the diagnostic test. Notes and observations during the interviews also aided in item selection.

Form A of the diagnostic test (48 items) was tried first with 100 fifth-grade students from Rockford, Illinois in September, 1969. From this administration it was found that the instrument was generally sound but that item analysis data would be more secure if they were based upon more cases, including some fourth and sixth grade students. From the public schools of Rockford, Illinois, Park Forest, Illinois and Livingston, Alabama a total of 395 cases were tested--96 at grade 4, 209 at grade 5, and 90 at grade 6. This additional testing was completed during October and November, 1969. Separate item analyses at each grade level enabled more secure decisions as items were revised.

As a result of the first administration of Form A, a number of items were revised and a few were substituted. Administration directions were revised and a machine scored answer sheet was developed. After revision of Form A, now called Form 1, Form 2 was made from prototypes of Form 1 items. Content was altered, but form was not.

Form 1 (revised Form A) and Form 2 in original form were administered to 608 students, approximately 100 at each grade level (four, five, and six) with each form during January, 1970. Summary statistics and complete item analysis data for all grades combined and for each grade separately provided data for further refinement of the instruments. These also indicated that Form B closely paralleled Form A.

A second revision of Form 1 and first revision of Form 2 were not included in the proposal.

One longer (31 to 44 item, 30 minute) test was developed for each of the five sub-tests of the original diagnostic test. These were to be used to confirm diagnoses arrived at with the first tests. Consid-

erations of time and money caused these longer tests to be rougher instruments and only permitted them to be tried in one classroom for each test at each grade level. Using these very rough norms, and recognizing that the longer tests may or may not be comparable in difficulty to an expansion of the shorter sub-tests, the longer tests were administered to 160 students who, on the first test, had scored much lower in one or two sub-tests than they had on the test as a whole. These data, collected during the spring of 1970, indicated some mismeasurement by the shorter sub-tests. On two tests (Dictionary and Reference Skills) nearly half of the retested group reached the 50th percentile or higher on the follow-up test. On two other tests (Library and Map Reading Skills) nearly one-third of those retested reached the 50th percentile or higher. With the test of Graphs and Tables, only three of 28 students scored above the 50th percentile on the longer follow-up test.

It would seem that the availability of short, quick diagnostic measures in the research-study skills will facilitate decision making on the part of teachers regarding instruction in these areas. However, it would also seem desirable for teachers to have available longer and more reliable diagnostic measures for each skill area that could be used when sub-test scores seemed out-of-line with other indications of skill ability.

Further action would involve improvement and standardization of both the diagnostic and follow-up tests. It would also involve the development and try-out of instructional methods and materials to parallel the diagnostic instruments. When both the instruments and the instruction have proved themselves, these relatively neglected skills may receive better attention than at present.

INTRODUCTION

The problem was to develop two forms of a short (approximately 45 minute) test to diagnose difficulties in five skill areas which are called "research-study skills". These areas are:

1. Library use
2. Dictionary use
3. Use of references
4. Reading graphs and tables
5. Reading maps

When the two forms of this test were developed, the items in this test were used as prototypes to develop an additional diagnostic measure of approximately 30 minutes' length in each of the five areas listed above.

An explosion of knowledge in nearly all fields and recognition of the impossibility of trying to "cover" even the most fundamental aspects of the subjects make it imperative that increased attention be given not only to that content deemed most basic but also to learning how to pursue knowledge that isn't taught--i.e. learning how to learn. As indicated by Spache (7) and others (1, 5, 6) the research-study skills listed above are among those most needed for independent study. These same authorities agree that this group of skills is appropriate for instruction in grades four, five and six even though some aspects of their development probably belong in the junior and senior high school.

In the overcrowded intermediate grade curriculum, the research-study skills often have been neglected. This lack of attention does not seem to be the result of overlooking these skills in statements of objectives, but probably is due instead to the fact that the learning of them is not central to any one subject. Curriculum guides, courses of study and teachers' manuals accompanying basal textbooks include these skills, but their inclusion is usually supplementary to the central objectives for the subject. When time pressures are acute, these skills are not among the "musts".

Unless priorities among objectives change to put research-study skills in a more prominent position, they are not likely to be taught in any systematic manner in the grade by grade sequence. It becomes necessary then to develop some plan for a short, quick diagnosis of needs in this area and some plan to meet efficiently the needs disclosed. This study was directed only to the diagnosis. Practice exercises would be developed and tried in a later project to meet the specific needs diagnosed.

It is recognized, of course, that any short, quick diagnostic instrument will fall far short of psychometric standards for reliability. In most instances a single item is representative of a universe of its kind, and is used to indicate ability or inability with a particular sub-skill. This is done with full consideration for the dangers of misdiagnosis, but it is also done with the realization that (1) schools and

teachers probably are unwilling to devote the several hours needed for highly reliable diagnosis in these areas, (2) a carefully made instrument probably will provide more accurate information for more children in more skill areas than would most teachers' observations of children's abilities and inabilities with these skills, (3) diagnosis can and should be checked with a longer and much more reliable instrument in each skill area, and (4) misdiagnosis with subsequent practice in a skill area that is not as weak as shown probably is not completely wasted time. All such skills get dull if not used.

With 25 to 35 children in a classroom where the active program involves a multitude of skill and content learnings, it might be expected that an able, diagnostic teacher would note a single instance of inability and make a decision as to whether something should be done about it. The instruments developed in this proposal would facilitate that kind of decision making.

METHODS AND FINDINGS

Steps taken in carrying out this study were as follows:

1. Development of diagnostic test items
2. Interview item try-out
3. Item analysis
4. Construction of diagnostic test, Form A
5. Try-out of diagnostic test, Form A
6. Item analysis on Form A
7. Revision of Form A (called Form 1)
8. Construction of diagnostic test Form 2
9. Try-out of Form 1 (Form A revised) and initial Form 2
10. Construction of follow-up tests in each of the five skill areas
11. Try-out of follow-up tests

The eleven steps above provided the sequence, but they do not offer the best categories for discussion. The description to follow will deal with only three major categories: (1) Development and selection of diagnostic items, (2) Development and trials of diagnostic tests, (3) Development and trials of follow-up tests.

DEVELOPMENT AND SELECTION OF DIAGNOSTIC ITEMS

For the original construction of items, clues to the significant operating skills in each of the five research-study skill areas (Library skills, Dictionary skills, Reference skills, Reading graphs and tables, Reading maps) were gained largely from four sources: (1) observing intermediate-grade children as they tried to use these skills; (2) analysis of abilities and inabilities revealed by practice exercises designed to develop the skills; (3) study of test items and item errors in published and unpublished tests of basic study skills (2, 4, 8); and (4) the literature on teaching the basic study skills. The value of these four sources for the development of diagnostic items was approximately in the order in which they are listed.

In connection with two projects concerned with the improvement of teaching of research-study skills carried out within the past four years, both the Project Director and the Education Specialist assisting with this study spent the equivalent of several weeks observing the teaching and practice of these skills. Data from these projects also included results from standardized tests, informal tests, and numerous practice exercises. These experiences and data provided a basis for choosing significant items from each skill area.

For most skills there were alternative types of items that seemed to provide adequate diagnostic information. Items of each type were constructed and used in the initial interview try-out.

For each of the five skill areas, 24 fifth-grade students responded to the test items in a 20-minute individual interview situation. Each student was asked to read the directions orally and to read each question in turn orally, select the best answer, and tell the interviewer why his choice was the best one. Previous experience with this technique indicated that it was a feasible way of improving the readability and face validity of items and test directions. While the Project Director interviewed, the Education Specialist took notes.

As this study was proposed, school situations were to be selected where the building principal believed that there was on his faculty a fifth-grade teacher who was an unusually able diagnostician in one of the five research-study skill areas. He would ask this diagnostic teacher to provide six students from this fifth-grade room--two of high ability in this skill, two of average ability, and two of low ability. When performance on the items ran contrary to the judgments of the diagnostic teacher, the items would be suspect. Multiple correlations, using scores within the teacher determined categories as the criterion variable, and observations during the interview sessions were to aid in the selection of items for the diagnostic test.

The plan called for building principals to identify 20 able diagnostic teachers in one of the five skill areas. These 20 diagnostic teachers would then select 120 students of varied ability in one skill. This would, of course, have involved quite a number of school buildings.

There were a number of reasons why this plan was not feasible, but outstanding among these were the following: (1) While the building principals knew their teachers and their abilities in a general way, they did not know which ones were able diagnostic teachers in the research-study skills as a group or singly. (2) If the principal had been able to single out one fifth-grade teacher as especially able in diagnosing difficulties with dictionary skills, for example, he probably would have been reluctant to do so. (3) While the teachers selected were able to name their high, average and low ability students, they were not able to do this for ability with a particular skill. (4) In the light of the above three difficulties, multiple correlations based on teacher determined categories were inappropriate.

Recognizing that we were getting generally able teachers rather than teachers able in diagnosing difficulties in a particular skill area,

and that we were getting generally able, average or low ability students rather than students with these abilities in a particular research-study skill, there were still advantages to be gained through an interview item try-out. We would learn how students designated by their teachers in these three categories responded to our items and we would learn much about the items themselves through the oral reading and reasons given for answering as they did.

In the spring of 1969, 120 children from 20 classrooms in Rockford, Illinois were individually interviewed in sessions of approximately 20 minutes each. Scores for each of 117 items (19 to 28 items in each skill area) were tabulated for students designated as high, average, or low ability (See Appendix A, Items 1a and 1b for these tabulations), and these data were considered in selecting items. Of more value were the notes taken during the interviews--evidences of difficulties with vocabulary, sentence structure, meanings and interpretation of the items. The 117 items arranged by skill areas that were used in the interview item try-out are included as Item 2 in Appendix A.

DEVELOPMENT AND TRIALS OF DIAGNOSTIC TESTS

Following analysis of the data collected by the interview item try-outs and rewriting of many items, 48 items, each measuring a specific skill, were selected for inclusion in Research Study Skills Test, Form A. There were ten items in each skill area except Dictionary Skills which had only eight items. A copy of this test is included as Item 1 in Appendix B.

The proposal called for the administration of Form A in its initial trial to approximately 100 fifth-grade students in the classroom situation in Rockford, Illinois. When this step was taken in September, 1969 with 93 students and the analysis had begun, it became apparent that decisions concerning item revision would be much more secure if the sample could be larger. Especially needed were some responses by fourth and sixth grade students. Circumstances were such that additional cases could be had from Rockford, Illinois, Park Forest, Illinois, and Livingston, Alabama with little additional expense other than reproduction of more test booklets. Answer sheets were not used in this initial trial. The total population for this step thus grew during October and November, 1969 from 93 students at grade five to 96 at grade four, 209 at grade five, and 90 at grade six--a total of 395 cases.

Summary statistics (See Item 2, Appendix B) and item analysis data (See Item 3, Appendix B) indicated that in general the test and the individual items were performing well. Some skill areas (sub-tests) were more difficult than others, but this was to be expected. Children have had more experience with some skills than with others and some skills and skill areas are inherently more difficult than are others. More attention was given to the discriminating power of items and foils and to discrepancies between two items designed to measure the same skill.

It was apparent from the outset that the total score on a diagnostic

test designed to measure five skill areas means very little. Sub-test scores mean more, and responses to individual items or groups of two or three items mean even more. However, it was also apparent that teachers probably will not provide individualized or small group remedial instruction for specific skills (alphabetizing, use of pronunciation guide, division of words into syllables, etc.). They might try to provide remedial instruction in a skill area (Library skills, Dictionary skills, Reference skills, Reading graphs and tables, Reading maps). The problem then became one of indicating which students needed instruction in which skill areas.

It probably could be argued that all students should be able in all skills measured by a diagnostic test if the test truly reflects the objectives. Thus all those who get less than a perfect score on any sub-test need work in this skill area. While this may be true, it is also unrealistic. It is like saying that all of us who are in less than perfect health need medical care. This then poses the question of how healthy is healthy, or how sick is sick? We face much the same question here. How does one report to teachers relative need for improvement in a skill area? It was determined that these decisions, even when taking into account central tendencies and dispersion by grade and school, must be arbitrary ones. They depend in large part on the objectives of the teacher at a particular grade and on how important the teacher thinks these objectives are.

In reporting to principals and teachers the results of the initial try-out of Form A, a range of scores was given for each of five levels of performance (very superior, superior, average, retarded, disabled) in each of the five skill areas. See Item 4, Appendix B for the letter to teachers regarding the interpretation of scores. Both the category designations and the range of scores within categories by skill areas were changed when the results of the revised Form A, which became Form 1, and the original Form 2 were reported.

When the results of the administration of the original Form A had been analyzed and this form had been revised (called Form 1), Form 2 was developed. Each item in Form 2 used a corresponding item in Form 1 as a prototype. While the content varied, the task and the form of the task were as nearly identical to the corresponding item in Form 1 as it could be made.

An answer sheet for identifying information and machine processing was developed and printed for use with Form 1 and Form 2. Test directions were rewritten accordingly. This answer sheet and these tests are included in Appendix B as items 5, 6 and 7.

Form 1 and Form 2 were administered during January 1970 to approximately 100 students at each of the fourth, fifth and sixth grades--about 300 students with each form, and approximately 600 in all. These data were processed by the Digital Computer Laboratory at the University of Illinois, but the analysis was essentially the same as it was after the initial administration of Form A. In addition to item analysis data, particular attention was given in this second administration to

spread and appropriateness at each grade level and to equivalence between the two test forms. Summary statistics for this administration are presented as Item 8, Appendix B. The letter to teachers and principals regarding the interpretation of scores is Item 9, Appendix B.

It is recognized at once that these two diagnostic test forms in their present stage of development, or even after another revision based on data now available, are no more than rough measures. However, the present tests and the data with which to improve them should provide instruments good enough to try in selected school systems, and these additional trials should supply data for their further improvement.

DEVELOPMENT AND TRIALS OF FOLLOW-UP TESTS

As was indicated earlier, the reliability of any short, quick diagnosis is suspect. Teachers would be encouraged to use the short diagnostic test results only as educated guesses (as something better than incidental observations) and to follow this test with a longer and more reliable measure in each skill area in which a significant weakness was discovered. For this purpose it was necessary to construct separate and longer diagnostic measures in each skill area. Items for each of these tests were chosen from (1) those that performed well in the individual interview-test situation but were not chosen for the diagnostic test; (2) those suggested by practice exercises which had been used effectively in teaching the research-study skills; (3) prototypes of (1) and (2) above; and (4) prototypes of items included in Forms 1 and 2 of the diagnostic test. It was determined that these tests should be 30 minutes long and about 40 items in length. As they were developed the five tests ranged in length from 31 to 44 items and all could be completed in 30 minutes. These five tests are included as Items 1 to 5 in Appendix C.

During the original administration of Form A it was discovered that students from the Park Forest, Illinois public schools performed at about the same level as those from the middle socio-economic levels in the Rockford, Illinois Public Schools. Inasmuch as the Rockford schools had been heavily used for the test-interview with individual items, with the original Form A, and with Forms 1 and 2, it was determined to use the Park Forest schools for very rough norms for the follow-up tests.

Art work and printing costs on Form A and Forms 1 and 2 were more expensive than had been anticipated. Hence the follow-up tests are more "hand made" than is desirable and the population to establish rough norms for these tests includes only one classroom for each test at each grade level. Summary statistics for these norming trials are available as Item 6, Appendix C. While there were 15 classes and a total of 415 students tested, no more than 24 to 33 were used for any one test at any one grade level.

Using these very rough norms and recognizing that the longer follow-up tests may or may not be comparable in difficulty to an expansion of the shorter sub-tests of Forms 1 and 2 of the diagnostic measures, the longer tests were administered to 160 students who, on Form 1 or

Form 2, had scored much lower in one or two sub-tests than they had on the test as a whole. These students had scored as "retarded" or "disabled" (See Appendix B, Item 9) on the sub-test on which they were remeasured with the longer follow-up test, but had scored above the 20th percentile on the total Form 1 or Form 2 test. Original and follow-up scores for these retested cases are presented as Item 7, Appendix C. It is apparent from these data that those who scored poorly on the short sub-tests of the diagnostic instruments also generally scored poorly on the longer follow-up tests. However, it is also apparent that some mismeasurement probably occurred with the shorter tests. Of the 160 cases, 113 scored at a higher percentile on the longer tests than they had on the shorter sub-tests. However, in interpreting these results, one must keep in mind practice effects, four months of additional maturation, experience and schooling, and a very limited sampling upon which percentile norms were based for the follow-up tests.

CONCLUSIONS AND RECOMMENDATIONS

Since the purpose of this study was to develop two forms of a short diagnostic test in five skill areas (Library use; Dictionary use; Use of references; Reading graphs and tables; Reading maps) and one longer follow-up test in each of these areas, there is a sense in which the tests themselves are the conclusions. However, an additional conclusion is that the development and use of such tests is feasible. Children in grades four, five and six can indicate their abilities and inabilities on these tests and their teachers, with the aid of an interpretation sheet, can use the results as an aid in instruction.

A further conclusion is that the development of rough diagnostic measures in the research-study skills is worth further effort along the following lines:

1. Forms 1 and 2 of the diagnostic tests should be revised and reprinted on the basis of data now available. These forms have been tried with 606 students, approximately 100 at each grade level with each form, but neither form has been revised in keeping with these data.

2. When revised, Forms 1 and 2 should be tried with larger and more diverse populations. Limited experience with their use would indicate that there is a lower level of academic achievement where these tests are of little use. They seem to continue to be useful with children who achieve at the high end of the distribution. However, both of these generalizations need confirmation, and a wider geographic sampling would also be desirable.

3. The five follow-up tests have scarcely been tried at all. They need much the same kind of trial, analysis and improvement given Forms 1 and 2 and the same kind of further development indicated in point 2 above. As these steps are taken these longer tests need to be adjusted so that they are truer reflections of the expanded sub-tests of Forms 1 and 2. It would also be desirable to develop a second form of each of the follow-up tests.

4. A diagnostic testing program is of little value without methods and materials to effect improvement following the diagnosis. Several trial programs, including a number of practice exercises, have been developed during the past few years for the teaching of these skills. There is now great need to suggest methods and provide instructional materials for each of the research-study skill areas.

5. Most important of all, the entire diagnostic and remedial program should be tried. This, of course, would take place most desirably after the four steps listed above had been completed. Trial of the entire program would involve the following:

a. Administration of diagnostic test Form 1 and interpretation of results.
b. Administration of follow-up tests as deemed essential within the time to be devoted to these skills.
c. Instruction in areas of weakness.
d. Retesting with diagnostic test Form 2 and interpretation of results.
e. Retesting with the second form of the appropriate follow-up test if this is deemed essential.

Some able teachers in the intermediate grades will be able to make good use of the diagnostic test information without the accompanying instructional guides and materials. There is little doubt, however, that suggested methods and available instructional materials would be helpful. Hopefully, when the entire program is completed, these often neglected research-study skills will find a more secure place in the elementary school curriculum.

REFERENCES

1. Bond, Guy L. and Eva Bond Wagner. Teaching the Child to Read. New York: The Macmillan Company, 1966.

2. Iowa Tests of Basic Skills, Forms 1 and 2: Test R, Reading Comprehension; Test W, Work Study Skills (Test W-1, Map Reading, Test W-2, Reading Graphs and Tables; and Test W-3 Knowledge and Use of Reference Materials); Test V, Vocabulary; E. R. Lindquist and A. N. Hieronymus, Houghton Mifflin Company, 1955.

3. Kuhlmann-Anderson Test, Form EF; Seventh Edition: Rose G. Anderson, Personnel Press, 1964. (Test of Academic Potential)

4. Research Study Skills Test; J. Harlan Shores, Frederick A. Rodgers and Mary C. Newland; Unpublished test, 1966. (This instrument was designed to supplement the two published tests of study skills listed in these references).

5. Russell, David H. Children Learn to Read. Boston: Ginn and Company, 1961.

6. Smith, Nila B. Reading Instruction for Today's Children. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963.

7. Spache, George E. Reading in the Elementary School. Boston: Allyn and Bacon, Inc., 1964.

8. SRA Achievement Series, Forms A and B. Test A, Work Study Skills (Using Sources of Information, Using a Table of Contents, Using an Index, Reading Charts). Louis Thorpe, D. Welty Lefever, and Robert A. Naslund, Science Research Associates, 1955.

APPENDIX A

1 a. Errors on Interview Item Try-out -- Grade 5

APPENDIX A -- ITEM 1a

ERRORS ON INTERVIEW ITEM TRY-OUT -- GRADE 5

Skill	Number Items	Number Pupils	Errors			Total Errors	Total Possible Errors
			Low Group	Av. Group	High Group		
Library	22	24	89	69	50	208	528
Dictionary	19	24	41	33	15	89	456
Reference	26	24	109	79	29	217	624
Graphs & Tables	28	24	71	47	28	146	672
Map Reading	22	24	63	50	45	158	528
Total	117	120	373	278	167	818	2808

APPENDIX A

1 b. Number and Percent Correct on Interview Item Try-out by Items

Library Skills
Dictionary Skills
Reference Skills
Reading Graphs and Tables
Map Reading Skills

APPENDIX A -- ITEM 1b

NUMBER AND PERCENT CORRECT ON INTERVIEW ITEM TRY-OUT BY ITEMS

Library Skills

Item Number	Σ X			Percent Correct		
	Low*	Average*	High*	Low	Average	High
1	6	4	7	75	50	88
2	0	1	2	0	13	25
3	5	5	7	63	63	88
4	7	5	8	88	63	100
5	0	2	3	0	25	38
6	5	8	8	63	100	100
7	8	7	8	100	88	100
8	3	5	6	38	63	75
9	2	4	6	25	50	75
10	3	3	6	38	38	75
11	6	7	7	75	88	88
12	2	5	3	25	63	38
13	8	8	7	100	100	88
14	2	3	6	25	38	75
15	4	5	5	50	63	63
16	3	4	4	38	50	50
17	0	2	1	0	25	13
18	5	8	8	63	100	100
19	5	7	8	63	88	100
20	2	6	4	25	75	50
21	7	5	8	88	63	100
22	4	3	4	50	38	50
Total	87	107	126			

* Eight students at each ability level responded to each item. Low, Average, High indicated judgment of classroom teachers concerning ability of these children in these skills.

ΣX = Number getting item correct. % Correct = % correct of number tried.

APPENDIX A -- ITEM 1b

NUMBER AND PERCENT CORRECT ON INTERVIEW ITEM TRY-OUT BY ITEMS

Dictionary Skills

Item Number	ΣX			Percent Correct		
	Low*	Average*	High*	Low	Average	High
1	8	8	8	100	100	100
2	6	8	8	75	100	100
3	5	6	7	63	75	88
4	8	8	8	100	100	100
5	5	3	8	63	38	100
6	4	6	8	50	75	100
7	2	4	5	25	50	63
8	4	3	5	50	38	63
9	6	8	8	75	100	100
10	6	2	4	75	25	50
11	8	8	8	100	100	100
12	7	8	8	88	100	100
13	7	6	8	88	75	100
14	5	6	7	63	75	88
15	7	8	8	88	100	100
16	5	7	7	63	88	88
17	8	8	8	100	100	100
18	3	6	8	38	75	100
19	7	6	6	88	75	75
Total	111	119	137			

* Eight students at each ability level responded to each item. Low, Average, High indicated judgment of classroom teachers concerning ability of these children in these skills.

ΣX = Number getting item correct. % Correct = % correct of number tried.

APPENDIX A -- ITEM 1b

NUMBER AND PERCENT CORRECT ON INTERVIEW ITEM TRY-OUT BY ITEMS

Reference Skills

Item Number	ΣX			Percent Correct		
	Low*	Average*	High*	Low	Average	High
1	7	4	4	88	50	50
2	0	2	5	0	25	63
3	7	7	8	88	88	100
4	1	3	7	13	38	88
5	4	4	8	50	50	100
6	8	8	8	100	100	100
7	0	5	7	0	63	88
8	2	4	7	25	50	88
9	4	3	8	50	38	100
10	1	5	8	13	63	100
11	3	4	8	38	50	100
12	3	5	7	38	63	88
13	4	6	8	50	75	100
14	5	7	7	63	88	88
15	4	5	7	50	63	88
16	Item not used					
17	4	4	7	50	50	88
18	4	6	8	50	75	100
19	5	5	6	63	63	75
20	4	5	2	50	63	25
21	3	3	5	38	38	63
22	5	5	7	63	63	88
23	5	7	8	63	88	100
24	3	4	7	38	50	88
25	2	4	6	25	50	75
26	3	6	8	38	75	100
Total	91	121	171			

* Eight students at each ability level responded to each item. Low, Average, High indicated judgment of classroom teachers concerning ability of these children in these skills.

ΣX = Number getting item correct. % Correct = % correct of number tried.

APPENDIX A -- ITEM 1b

NUMBER AND PERCENT CORRECT ON INTERVIEW ITEM TRY-OUT BY ITEMS

Reading Graphs and Tables

Item Number	ΣX			Percent Correct		
	Low*	Average*	High*	Low	Average	High
1	5	3	5	63	38	63
2	6	6	8	75	75	100
3	7	7	8	88	88	100
4	6	8	8	75	100	100
5	8	8	7	100	100	88
6	4	6	8	50	75	100
7	2	6	8	25	75	100
8	2	4	4	25	50	50
9	5	8	8	63	100	100
10	6	6	4	75	75	50
11	8	7	8	100	88	100
12	8	8	8	100	100	100
13	7	8	8	88	100	100
14	3	5	7	38	63	88
15	7	8	8	88	100	100
16	5	7	8	63	88	100
17	8	8	8	100	100	100
18	3	8	7	38	100	88
19	5	6	8	63	75	100
20	5	5	6	63	63	75
21	7	7	8	88	88	100
22	6	7	8	75	88	100
23	8	7	8	100	88	100
24	7	8	8	88	100	100
25	4	4	4	50	50	50
26	6	5	6	75	63	75
27	4	5	6	50	63	75
28	1	2	4	13	25	50
Total	153	177	196			

* Eight students at each ability level responded to each item. Low, Average, High indicated judgment of classroom teachers concerning ability of these children in these skills.

ΣX = Number getting item correct. % Correct = % correct of number tried.

APPENDIX A -- ITEM 1b

NUMBER AND PERCENT CORRECT ON INTERVIEW ITEM TRY-OUT BY ITEMS

Map Reading Skills

Item Number	ΣX			Percent Correct		
	Low*	Average*	High*	Low	Average	High
1	7	7	7	88	88	88
2	5	6	5	63	75	63
3	6	7	6	75	88	75
4	7	8	8	88	100	100
5	7	8	7	88	100	88
6	7	5	5	88	63	63
7	1	3	2	13	38	25
8	6	6	8	75	75	100
9	4	3	5	50	38	63
10	7	8	7	88	100	88
11	5	6	7	63	75	88
12	4	7	7	50	88	88
13	7	8	8	88	100	100
14	2	5	2	25	63	25
15	7	7	7	88	88	88
16	4	5	7	50	63	88
17	4	1	3	50	13	38
18	2	3	2	25	38	25
19	5	8	7	63	100	88
20	7	5	8	88	63	100
21	7	5	8	88	63	100
22	2	5	5	25	63	63
Total	113	126	131			

* Eight students at each ability level responded to each item. Low, Average, High indicated judgment of classroom teachers concerning ability of these children in these skills.

ΣX = Number getting item correct. % Correct = % correct of number tried.

APPENDIX A

2. Original Items Tried in Test-Interviews

Library Skills
Dictionary Skills
Reference Skills
Reading Graphs and Tables
Map Reading Skills

Name _____ LIBRARY SKILLS Date _____

School _____ Key Teacher _____ R. ____

Card Catalog

1. What purpose does the card catalog serve?

   A. To list books which may be purchased.
   B. To show that library cards are needed.
   C. To show which books have been taken out of the library.
   (D.) To list the authors, titles and subjects of books in the library.

2. Suppose you are looking in the card catalog for a book called The Art of Dancing written by John Samuel Hahn.

   Under what letter in the card catalog would you look to find the title card?

   A. D (C.) A
   B. T D. H

3. Under what letter in the card catalog would you look to find the author card for the above book?

   A. J C. A
   (B.) H D. D

4. Under what letter in the card catalog would you look to find the subject card for the above book?

   A. A C. J
   B. H (D.) D

5. Sinclair Lewis was an American author who wrote many books. If you had just read Arrowsmith, and wanted more of his books, which library card catalog tray would you use?

   A. The A - BAR tray.
   (B.) The JAP - MET tray.
   C. The MEU - PAK tray.
   D. The ROW - TAY tray.

Dewey Decimal System

6. Library catalog cards for non-fiction books have a number in the upper left hand corner of the card which is the Dewey Decimal System number. Of what use is this number?

   A. It tells when the book was published.
   B. It gives the date of birth of the author.
   (C.) It tells in which section of the library the book is located.
   D. It gives the number of pages in the book.

The Dewey Decimal System

000 - 099	General Works
100 - 199	Philosophy
200 - 299	Religion
300 - 399	Social Sciences
400 - 499	Languages
500 - 599	Pure Science
600 - 699	Applied Science
700 - 799	Arts and Recreation
800 - 899	Literature
900 - 999	History

For the questions below, use the Dewey Decimal System shown above to decide where to find different materials and books in the library. Select the one that will give you the most information on the topic you are using.

7. Where would you look to find out about political leaders in France from 1850 to 1900?

   A. 200 - 299 C. 000 - 099
   (B.) 900 - 999 D. 300 - 399

8. If you wanted to find out how to use the library, where would you look?

   A. 600 - 699 (C.) 000 - 099
   B. 400 - 499 D. 800 - 899

9. Where would you find out about population and where they are found?

   A. 500 - 599 (C.) 300 - 399
   B. 900 - 999 D. 600 - 699

Sources of Information

10. The best place to look to find the most complete maps of India would be

A. an encyclopedia
(B) an atlas
C. The World Almanac
D. a dictionary

11. Where is the best place to find the meaning of the word meteorology?

A. an encyclopedia
(C) a dictionary
B. an atlas
D. a spelling book

12. Where would you look to find the most recent information on the population of California?

A. an encyclopedia
C. a dictionary
(B) The World Almanac
D. a social studies book

13. If you wanted some information about the life of Napoleon, where would you look?

(A) an encyclopedia
C. a geography
B. a dictionary
D. The World Almanac

14. What would be the best place to find out whether New York is farther north than London?

A. a map
C. an encyclopedia
(B) a globe
D. an atlas

Shelf Location

15. In placing fiction books on a shelf in a library, what determines which book comes first, second, third, etc. on the library shelf?

A. Date of publication.
(B) Author's name.
C. Subject of book.
D. Frequency of use.

16. In placing non-fiction books on a shelf in a library, what do you consider first to decide where on the shelf the book should be placed?

A. Date of publication.
B. Author's name.
(C) Subject of book.
D. Frequency of use.

Parts of a Book

17. In what part of a book may you often find additional tables not found in the main part of the book?

A. Glossary
C. Bibliography
B. Index
(D) Appendix

18. If you didn't understand the meaning of a hard word in the book you were reading, where in that book would you look to find the meaning?

A. Appendix
(C) Glossary
B. Table of Contents
D. Index

19. If you wanted to know on which page in the book Chapter V started, where would you look?

A. Title Page
C. Index
(B) Table of Contents
D. Appendix

20. Where would you look to find if a certain person was mentioned in a book?

A. Table of Contents
C. Appendix
B. Glossary
(D) Index

21. Which of the items listed below is usually not found on the title page of a book?

(A) Dedication
C. Publisher
B. Title
D. Author

22. Where would you look to find a list of writings about a certain subject or by a certain author?

A. Glossary
(C) Bibliography
B. Index
D. Appendix

as·cen·sion (ə sen′ shən), n. a rising; ascent. --the Ascension, in the Bible, the ascent of Jesus into heaven after rising from the dead.

as·per·sion (ə spûr′ zhən), n. a false or unfair remark that can hurt one; slander [The candidate cast aspersions on his opponent's character.]

car·bu·re·tor (kär′ bə rā′ tər), n. the part of an engine in an automobile, etc. that mixes air with gasoline spray to make the mixture that explodes in the cylinders.

cas·se·role (kas′ə rōl), n. 1. a covered baking dish in which food can be cooked and then served. 2. the food baked and served in such a dish.

cyst (sist), n. a small bag or pouch growing in some part of the body, especially one filled with fluid or hard matter.

de·co·rum (di kôr′ əm), n. that which is suitable or fitting; proper and dignified behavior, speech, etc. [Loud laughter in the library shows a lack of decorum.]

mon·ster (män′ stər), n. 1. any plant or animal that is not normal in shape or form, as a fish with two heads: 2. an imaginary creature in stories, as a dragon or unicorn; often, one that is partly human, as a mermaid or centaur. 3. a very cruel or wicked person. 4. a huge animal or thing [a monster of a house.] --adj. huge; enormous.

phleg·mat·ic (fleg mat′ ik), adj. hard to make excited or active; dull and sluggish, or calm and cool. [The phlegmatic fellow showed no concern about the coming hurricane.]

pre·serve (pri zûrv′), v. 1 to protect from harm or damage; save [to preserve our national forests.] 2. to keep from spoiling or rotting. 3. to prepare food for later use by canning, pickling, or salting it. 4. to keep in a certain condition; maintain. [He tried to preserve his dignity.] --n. 1. usually preserves, pl. fruit preserved by cooking it with sugar and canning it. 2. a place where fish and wild animals are protected or are kept for controlled hunting and fishing. --pre served′, p.t. & p.p.; pre serv′ing, pr. p.

ro·tate (rō′ tāt), v. 1. to turn around a certain point or axis, as a wheel; revolve [The earth rotates on its axis.] 2. to change by turns in regular order; alternate [Farmers rotate crops to keep soil fertile.] ro′ tat ed, p.t. & p.p.; ro′ tat ing, pr. p.--ro ta′ tion, n. -- ro′ ta tor, n.

smear (smir), v. 1. to cover with something greasy, sticky, etc. [She smeared her face with cold cream.] 2. to rub or spread [Smear some grease on the wheel.] 3. to make a mark or streak that is not wanted [He smeared the wet paint with his sleeve.] 4. to harm the reputation of in an unfair way; slander [He claimed that the newspaper had smeared him.] --n. a mark or streak made by smearing. 2. the act of smearing; especially slander.

sur·geon (sûr′ jən), n. a doctor who specializes in surgery.

tooth (tōoth) n. 1. any of the white, bony parts growing from the jaws and used for biting and chewing. 2. any part more or less like a tooth, as on a saw, comb, gear-wheel, etc. 3. an appetite or taste for something [a sweet tooth.] --in the teeth of, going straight against the force of. --tooth and nail, with all one's strength. --teeth, pl. --tooth′ less, adj.

vol·un·teer (väl ən tir′), n. a person who offers to do something of his own free will, as one who enlists in the armed forces by choice. --adj. of or done by volunteers [a volunteer regiment; volunteer help.] v. 1. to offer to do or give of one's own free will [He volunteered some information. Sally volunteered to write the letter.] 2. to enter into a service of one's own free will [The soldier volunteered for service overseas.]

PRONUNCIATION GUIDES

fat āpe cär ten ēven hit bīte gō hôrn

tōol book up fūr get joy yet chin she

thin then zh = s in pleasure

ə = a in ago
e in agent
i in sanity
o in confess
u in focus

Name _____ DICTIONARY SKILLS Date _____

Key

School _____ Teacher _____ R _____

Use the sample dictionary whenever you need it to answer the questions below.

Alphabetical Order -- Guide Words

1. Which of these words would come first in a dictionary?

   A. strong
   B. sing
   (C.) sailor
   D. scout

2. Listed below are guide words found on four pages of a dictionary. On which page would you find the word solid?

   A. someway - sop
   B. sorrow - sound
   C. soda fountain - soil
   (D.) solemn - solo

3. Which of these words would come first in a dictionary?

   (A.) rigger
   B. rigor
   C. rigid
   D. right

4. Listed below are guide words found on four pages of a dictionary. On which page would you find the word personality?

   A. periblem - peripatetic
   B. peradvanture - peregrine
   (C.) perseveringly - perspective
   D. peripheral - permit

Spellings -- Parts of Speech

5. If I didn't know how to spell the word meaning more than one "calf", how should I use the dictionary to find out how to spell this word?

   A. Guess how the word might be spelled and look up that word.
   (B.) Look up the word "calf".
   C. Look through all words beginning with the letter "c".
   D. Look up a word meaning something like "calf" such as "cow" or "cattle".

Spellings -- Parts of Speech (Continued)

6. If I didn't know how to spell the word meaning more than one "mouse" how should I use the dictionary to find out how to spell this word?

   A. Guess how the word might be spelled and look up that word.
   (B.) Look up the word "mouse".
   C. Look through all words beginning with the letter "m".
   D. Look up a word meaning something like mouse such as "rat".

7. If you looked up the word "volunteer" in the dictionary and found a small "v" or "vt" after it, the best choice of meaning would be

   A. a person who offers his services. "He is a volunteer".
   B. done by one who is not paid for the help he offers. "He is a volunteer fireman".
   (C.) offering to help. "He will volunteer".
   D. one who isn't drafted. "The soldier is a volunteer".

8. If you looked up the word "smear" in the dictionary and found a small "n" after it, the best choice of meaning would be

   (A.) a smudge. "Chocolate made a smear on her dress".
   B. to spread with oil, paint, etc. "Be careful not to smear the oil on the fender of the car".
   C. to make nasty remarks. "The magazine article smeared him".
   D. to rub over something to make a stain. "If it is not dry, it will smear when you touch it".

Syllables

9. How many syllables are there in the word decorum?

   A. Two
   B. Five
   (C.) Three
   D. Four

Syllables (Continued)

10. If you come to the end of a line you are writing and find yourself in the middle of the word carburetor, it would be correct to divide it

A. after the letters ca.
(B) after the letters carbu
C. after the letters carb
D. after the letters carbur

Pronunciation

11. The word volunteer has three syllables. Which syllable should have the greatest force when it is spoken?

A. eer
B. vol
(C) teer
D. un

12. In the word rotate, the a is said like the a in

(A) ape
B. fat
C. car
D. ago

13. After each word in the dictionary is a word in parenthesis such as casserole (kas′ ə rōl). The special marks used in this word in parenthesis are used in helping you to

A. spell the word
B. divide the word
(C) say the word
D. know what the word means

14. In the word ascension, the e is pronounced like the e in

A. she
B. even
(C) ten
D. agent

Meanings

15. Which meaning comes closest to the meaning of the word aspersion?

(A) Saying something about someone that is not true.
B. Going up in the air.
C. Something that is very proper.
D. Turning in a circle.

16. Which sentence below tells about a phlegmatic person?

A. She screamed when she saw the monster.
B. He ran when he heard her cry for help.
(C) He smoked his pipe slowly as the big snake came nearer.
D. She cried through the entire picture.

17. Which of the words listed below fits best in this sentence?
"The surgeon took out the _____."

(A) cyst
B. smear
C. carburetor
D. casserole

18. Which meaning given in the dictionary best fits the meaning of the word preserve in this sentence? "Many people are trying to preserve the big trees in California."

(A) Number 1
B. Number 2
C. Number 3
D. Number 4

19. Which one of these could most properly be called a volunteer?

A. a person in prison
(B) a scoutmaster
C. a student in school
D. a soldier who has been drafted

Name _____ REFERENCE SKILLS Date _____

School _____ Key Teacher _____ R ____

Table of Contents

Place the one best answer in the blank before each question. Use the Table of Contents below and to the right on this page.

19 1. Where might you find information about the fish and fur industries in Alaska?

35 2. Where would you be likely to find out about how the U.S. Constitution was written?

47 3. On what page might you find a picture of the flags of Africa?

57 4. On what page would you look to find something about how people try to get along with other people in the world?

35 5. Where might you learn how to be a good citizen?

43 6. Where would you look to find out about the time just after the Civil War?

62 7. Where would you look for information about travel, airplanes, the automobile, T.V., and radio?

19 8. On what page might you read about how people live in California?

23 9. On what page might you find information about DeSoto, Pizarro, Ponce de Leon, Henry Hudson, and Columbus?

53 10. Where might you find out about growing coffee in Brazil?

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Use of an index

11. If you were looking at the map of California, what volume and page would you be using?

A. 7/272
B. 10/168
C. 10/190
D. 10/179-182

12. If you wanted more information about the cows in the dairy industry, where would you look?

A. 3/100-202
B. 9/379-383
C. 12/412-413
D. 12/421-423

13. Where would you look to find out about farming in Canada?

A. 1/42-43
B. 12/410-422
C. 3/185-211
D. 16/203-206

14. If you were studying the Middle Ages and wanted to know about the fruits of that time, where would you look?

A. 5/72
B. 5/84
C. 1/257
D. Not given

15. If you liked Danny Kaye on TV, where would you look to read about him?

A. 14/251
B. 15/463
C. 14/254
D. 15/462

16. In which volume and on what page might you read about factories that make the products of agriculture?

A. 3/190
B. 12/399
C. 5/72
D. Not given

17. Where would you look to find out about how to keep dairies clean?

A. 9/381
B. 16/398
C. 12/421-423
D. 3/100-202

18. If you wanted the best information about how the city of Hollywood has grown, where might you look?

A. 10/190
B. 10/167
C. 14/441
D. 14/446

Index

Abolitionist, 17/410; Brown, John 17/403; Garrison, William L. 4/292; See also Slavery; Civil War.

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California, 10/179-182; flag (illus.) 7/272; general information (table) 10/190; industry 5/76-87; map 10/168; population 10/167; See also Hollywood; Los Angeles; San Francisco.

Cattle, 12/410-422; beef cattle 9/379-383; breeding 9/396-400; dairy cows 12/421-423; wild cattle 12/412-413.

Civil War, 17/221-225; battles and campaigns 17/228-234; Confederate flag (illus.) 18/10; secession 17/224-225; See also Reconstruction period.

Cow; See Cattle; Dairying.

Crowfoot; See Buttercup.

Dairying, careers in 3/100-202; cooperatives in Denmark 14/274; cooperatives in U.S. 16/398; sanitation 9/381; See also Cattle, dairy.

Factory; See Assembly line; Automation; Industrial Revolution; Manufacturing; Mass production.

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Fruit, 5/72-91; annual consumption (table) 8/319-320; California production 10/181-182; citrus fruits 5/84-87; Florida's fruits 9/154; Middle Ages 1/257; See also Seed.

Hollywood, Cal; growth 14/441; map 14/446.

Key Words

When using an encyclopedia, we look up the key word--the word which is most likely to tell about what we want. For each of the items below, circle the letter before the best key word.

19. Mary has learned that the cardinal is the state bird of Illinois. Where is the best place for her to read about this bird?

A. Birds
B. Illinois
(C.) Cardinal
D. States

20. If you wanted to know whether a Brown Swiss cow gives more milk than a Jersey cow, what would you look up?

A. Jersey
(B.) Cattle
C. Brown Swiss
D. Milk

21. If you wanted to find out how to play Rugby, a game like football or soccer which is played in England, where would you look?

(A.) Rugby
B. Football
C. Soccer
D. Games, Rules for

22. If you wanted to know whether the tree shrew is more like a squirrel or a monkey, which key word would you use?

A. Monkey
B. Squirrel
C. Tree
(D.) Shrew

23. If you were looking in an encyclopedia to find pictures of a trout, perch, pike and shark, in which volume might you find all of them?

A. The "T" volume
(B.) The "F" volume
C. The "S" volume
D. The "P" volume

24. If you wanted to read about the rugs now being made by the Indians in New Mexico, what key word would you choose?

A. Indian Affairs, Bureau of
(B.) Rugs, Indian
C. Indians, American-Present day
D. New Mexico

25. Which volume in an encyclopedia would be most likely to have the most information about The Louvre, a famous art museum in Paris, France?

A. The "A" volume
B. The "P" volume
(C.) The "L" volume
D. The "M" volume
E. The "T" volume
F. The "F" volume

26. If you were reading the book Bad Air it would probably be about

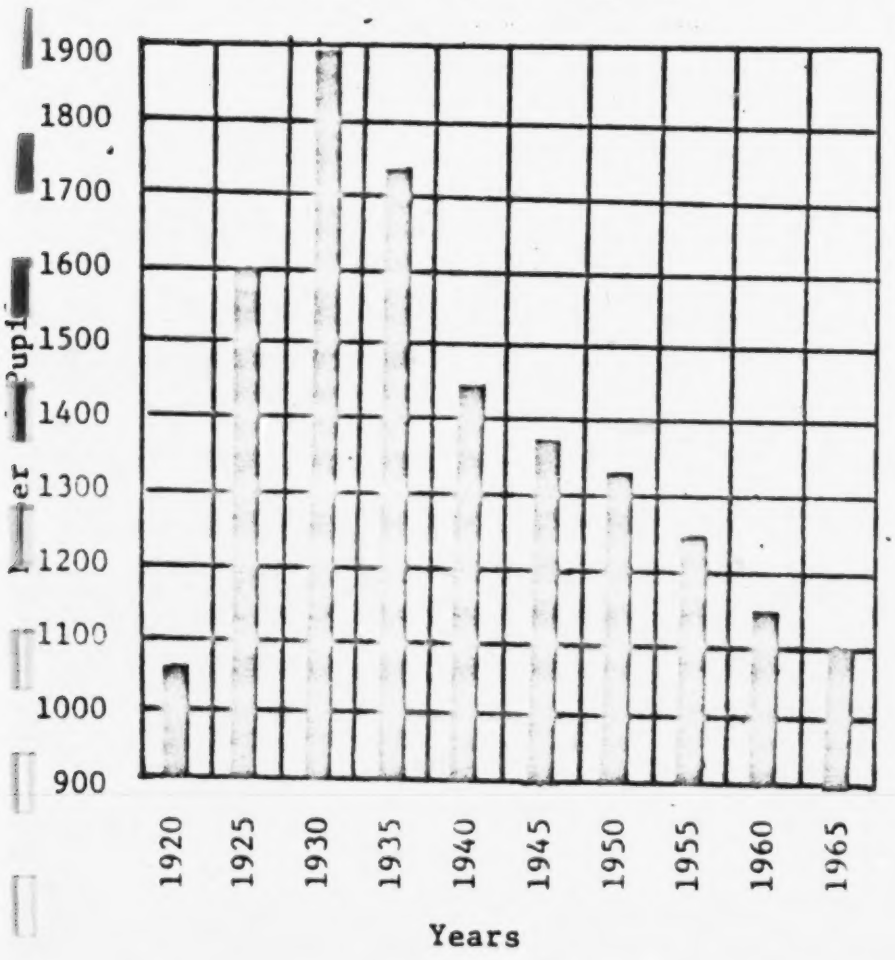
A. Conservation
(B.) Pollution
C. Diseases
D. Sanitation

READING GRAPHS, CHARTS AND TABLES

Name _____ Key Date _____

School _____ Teacher _____ R_____

Lincoln School Pupils



1. Since 1930, the number of pupils in Lincoln School has been

   A. growing larger
   (B.) growing smaller
   C. staying the same
   D. going up one five year period and down the next

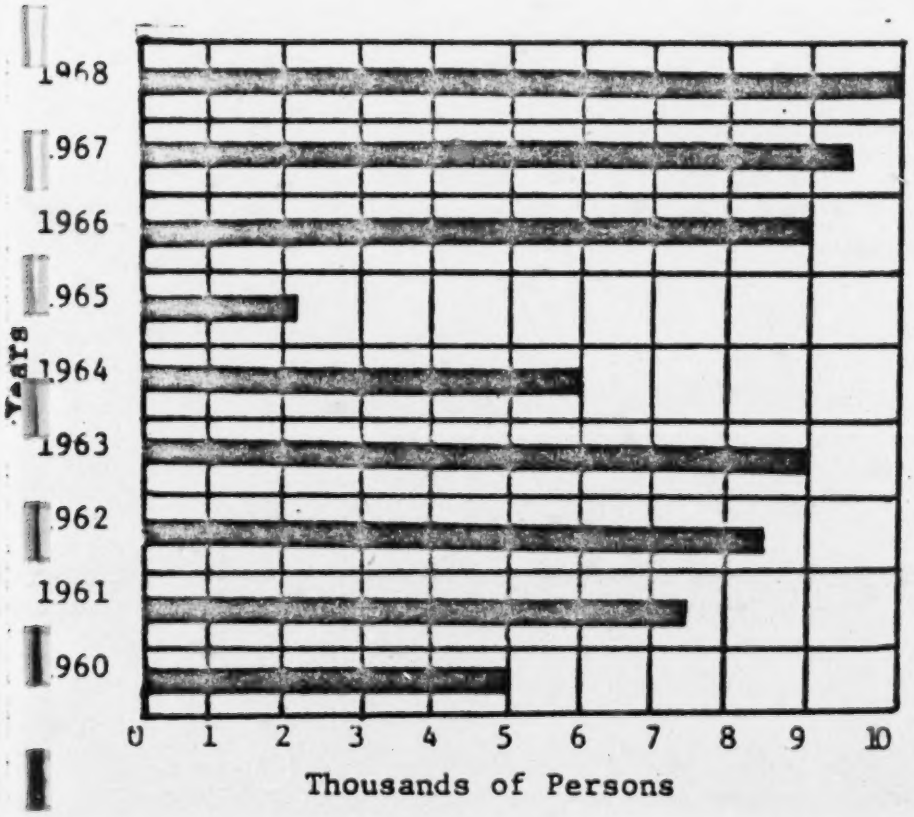
2. In what years was the number of pupils the highest and lowest?

   A. Highest in 1925 and lowest in 1940
   (B.) Highest in 1930 and lowest in 1920
   C. Highest in 1950 and lowest in 1960
   D. Highest in 1935 and lowest in 1920

3. The second largest number of pupils in Lincoln School was in

   A. 1965
   B. 1925
   (C.) 1935
   D. 1930

Visitors to Evergreen Park -- 1960-1968



4. In which two years were there about the same number of people visiting the park?

   A. 1968 and 1960
   (B.) 1966 and 1963
   C. 1961 and 1962
   D. 1960 and 1965

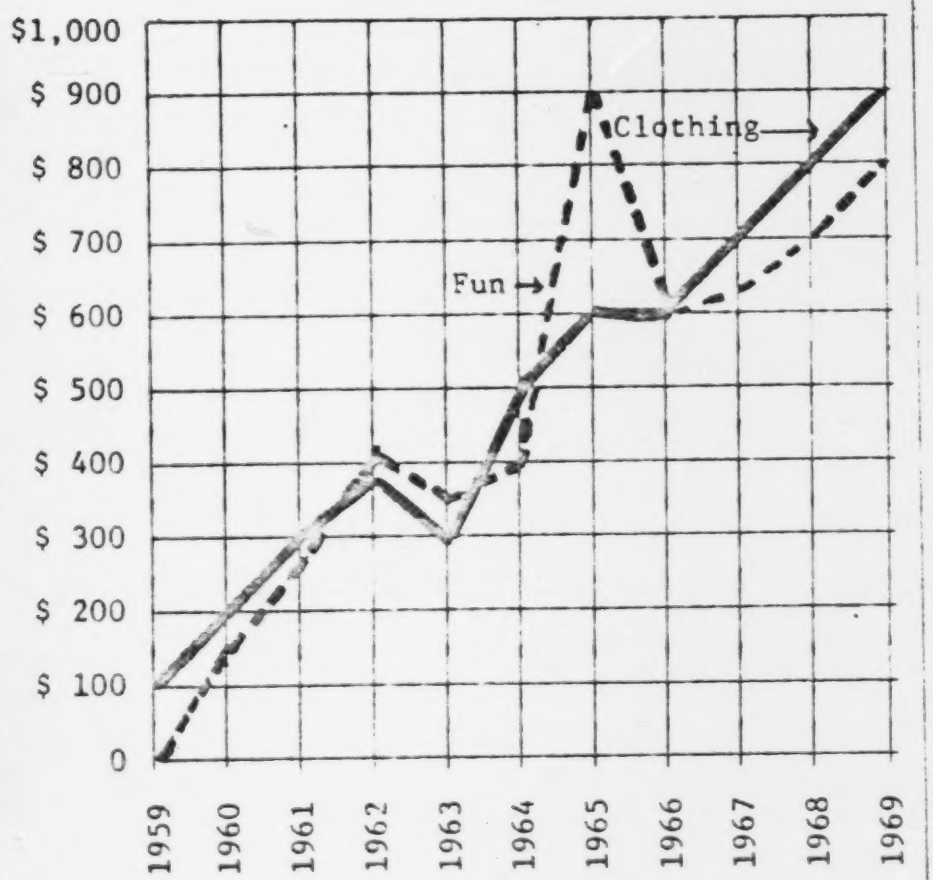
5. During one year, when new roads were made, the park was closed most of the year. From the graph, which year do you think this was

   A. 1960
   B. 1964
   (C.) 1965
   D. 1961

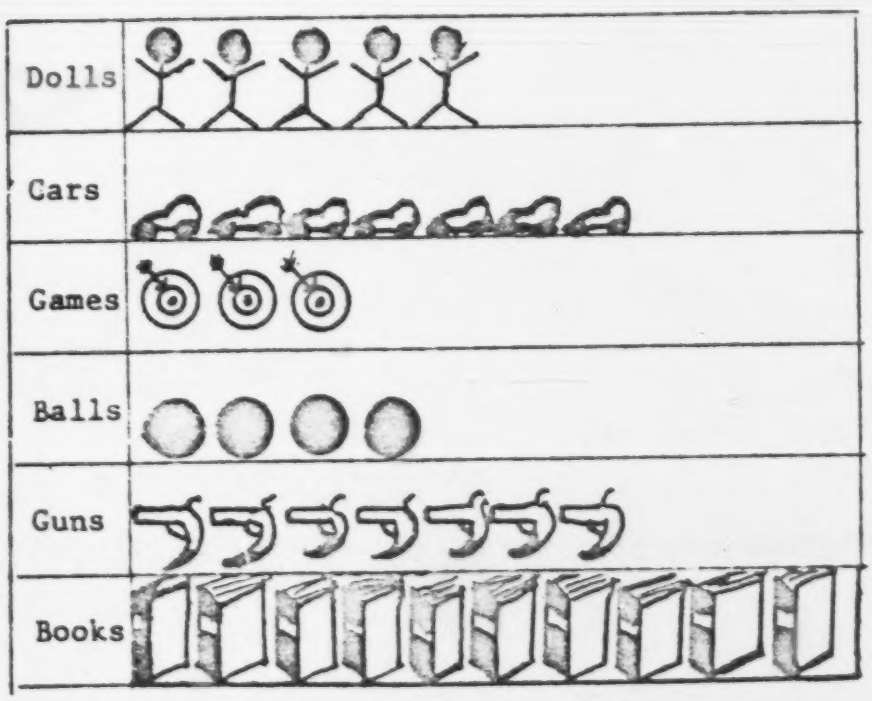
6. About how many people visited the park in 1968?

   A. 10
   B. 100,000
   C. 100
   (D.) 10,000

Money Spent by a Family for Clothing and Fun During a Ten Year Period



Mr. Jones' Sales Record for One Day



7. During which year did this family spend almost the same amount for clothing and fun?

A. 1963 C. 1966
B. 1964 D. 1968

8. How many years did they spend more for fun than for clothes?

A. 3 C. 4
B. 2 D. 5

9. One year the family took a long trip for fun. Which year was this likely to be?

A. 1966 C. 1969
B. 1962 D. 1965

10. Which year was the family trying to spend less for all things?

A. 1963 C. 1961
B. 1965 D. 1967

11. What was the largest amount spent for clothing or fun during any one year?

A. $700 C. $900
B. $800 D. $400

12. Mr. Jones sold the same number of

A. dolls as guns C. cars as guns
B. books as guns D. balls as games

13. Which item was the best seller in the stc

A. Books C. Cars
B. Guns D. Dolls

14. What two items, together sold as well as did books?

A. guns and games C. guns and balls
B. dolls and cars D. cars and guns

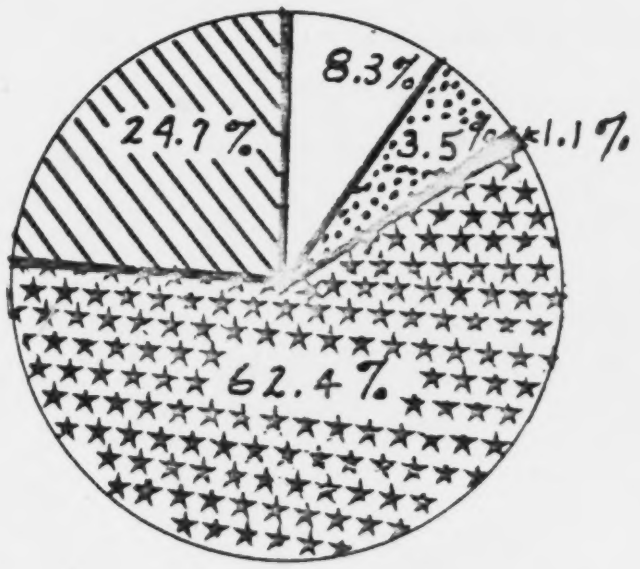
15. How many more books were sold than games?

A. Seven C. Four
B. Six D. Eight

16. What item sold twice as well as dolls?

A. Guns C. Cars
B. Books D. Balls

Ways of Going to School in Fairview



17. We can tell from the chart that

A. most children ride the bus to school.
B. there are as many children going by auto as by bus.
(C) more children walk than ride.
D. more children use the streetcar than the bus.

18. The third most popular way of going to school is by

(A) Auto
B. Walk
C. Bus
D. Other

19. More than 1/2 of the children went to school by

A. Auto
B. Bus
C. Streetcar
(D) Walking

20. Which ways of going to school were used by about 1/4 of the children?

A. Walk
(B) Bus
C. Bus and Streetcar
D. Auto, streetcar, and other

Spelling Scores--Number right--10 words per day

Name	Thurs	Wed	Mon	Tues	Fri	Total
Sue	9	8	6	6	9	38
Mary	8	7	6	5	8	34
Bill	10	9	9	8	10	46
Sally	6	6	7	6	5	30
Joe	4	3	2	3	6	18
Clara	8	9	7	5	8	37
Lee	10	9	10	8	10	47
Bob	10	10	10	10	10	50
Daily Total	65	61	57	51	66	300

21. The best speller in the class during the week was

A. Lee
(B) Bob
C. Sue
D. Bill

22. The lowest total scores were made by the pupils on

A. Thursday
B. Wednesday
C. Monday
(D) Tuesday
E. Friday

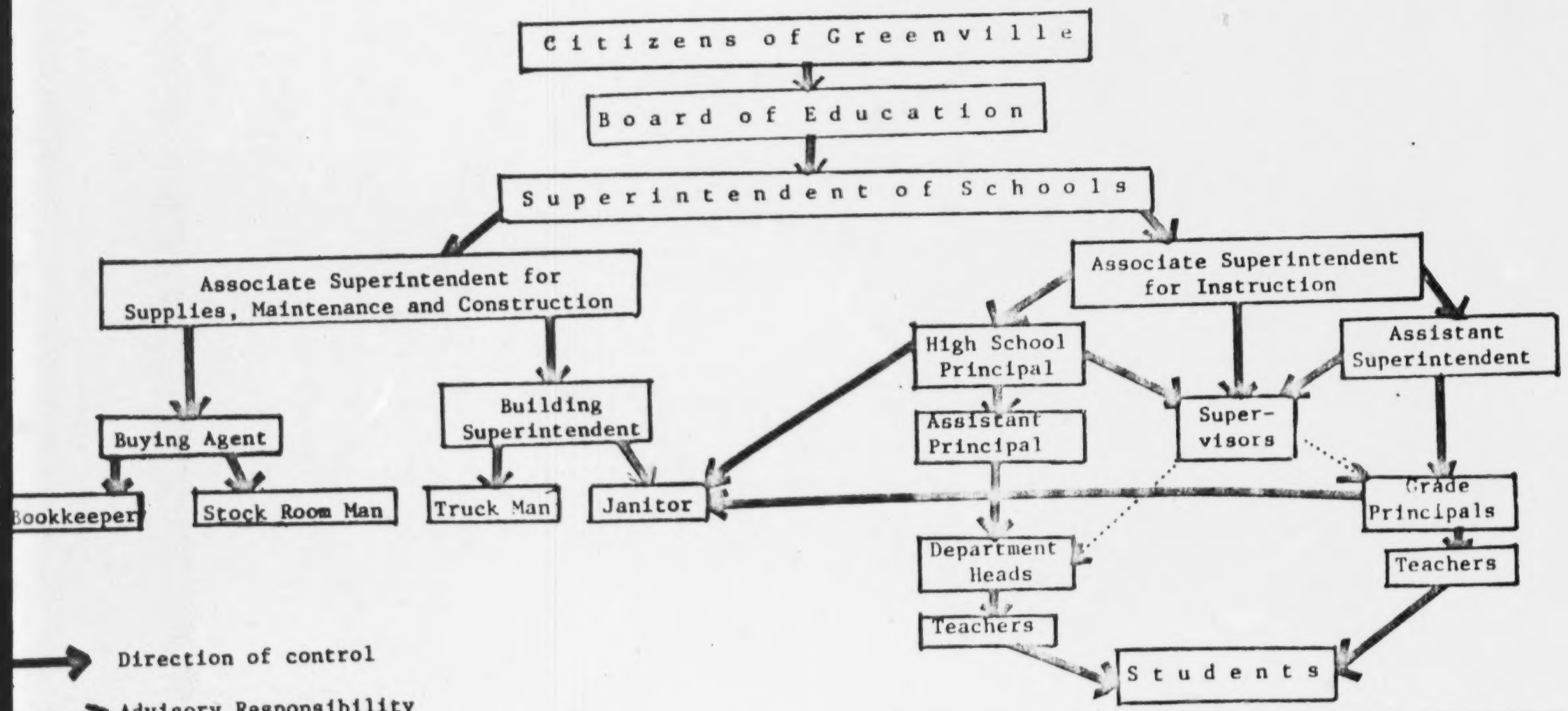
23. The pupil who made the lowest score for a the tests together was

A. Clara
(C) Joe
B. Sue
D. Mary

24. Which pupil made the lowest score on Friday?

A. Bob
(C) Sally
B. Lee
D. Joe

GREENVILLE PUBLIC SCHOOLS



25. According to the chart, the students in the Greenville Public Schools are directly under the control of the

A. Citizens of Greenville.
(B) Teacher.
C. Superintendent of schools.
D. Principal.

26. The Superintendent of Schools would be chosen by the

A. Citizens of Greenville.
B. Associate Superintendent for Instruction.
(C.) Board of Education.
D. High School Principal.

27. According to the chart, the janitor is under the control of

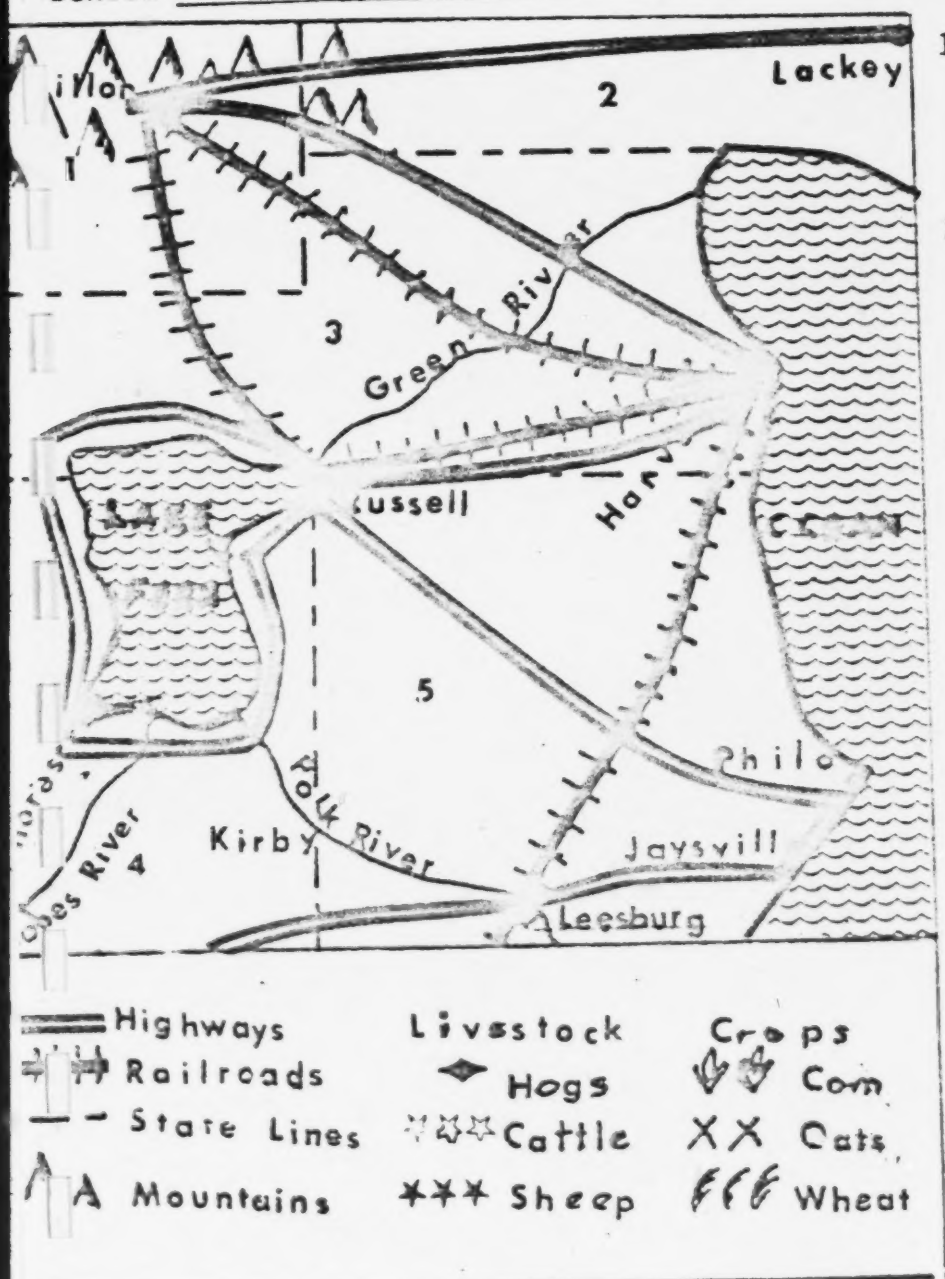
A. the Building Superintendent only.
B. the Buying Agent.
C. the Truck Man.
(D.) both the Building Superintendent and the Principals.

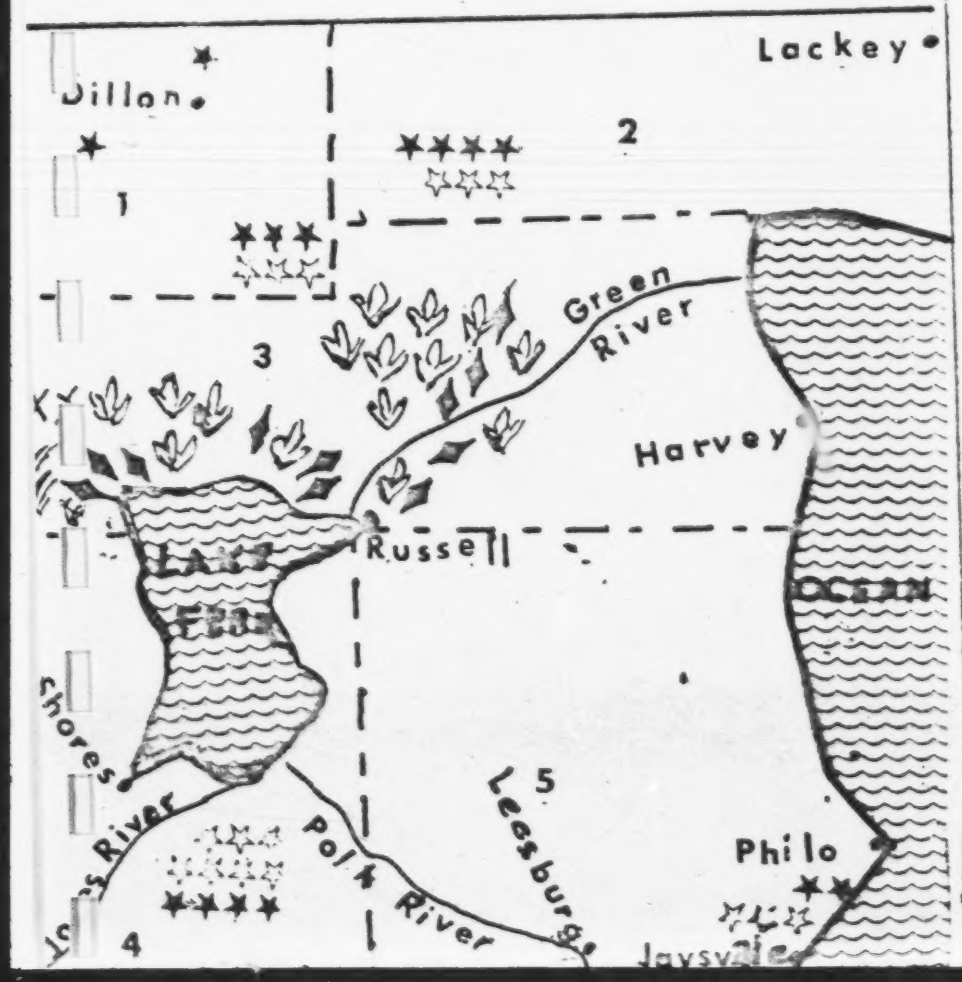
28. In this school system, high school teachers report directly to the

(A.) Department Heads.
B. Students.
C. Supervisors.
D. High School Principal.

Name _____ MAP READING SKILLS Date _____

School _____ Key Teacher _____ R ____





1. Which river connects the lake and the ocean?

   A. Polk River
   B. Jones River
   (C.) Green River
   D. None

2. To travel from Harvey to Philo by car, you would have to go first to

   A. Jaysville
   (B.) Russell
   C. Dillon
   D. Shores

3. What would be a good name for the road between Philo and Jaysville?

   (A.) Ocean Drive
   B. Riverview Road
   C. Lake Highway
   D. Mountain Crest Road

4. Mountain climbing would be most likely near the town of

   A. Russell
   B. Philo
   C. Lackey
   (D.) Dillon

5. Which city is connected by railroad to both a lake and the ocean?

   A. Shores
   (B.) Russell
   C. Lackey
   D. Leesburg

6. In this area cattle are most often found wit

   (A.) Sheep
   B. Wheat
   C. Hogs
   D. No other crop or animal

7. Which is likely to be the largest port for shipping grain overseas?

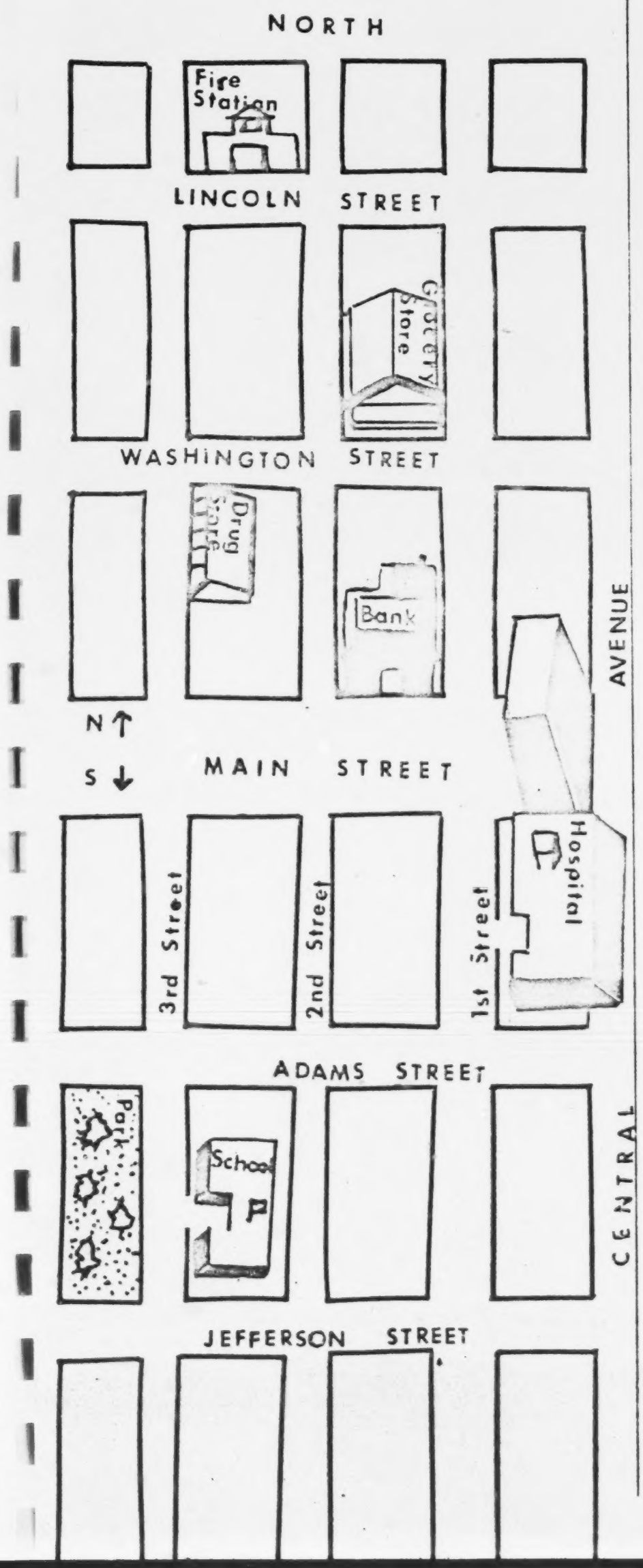
   (A.) Harvey
   B. Philo
   C. Jaysville
   D. Russell

8. State 1 grows

   A. corn for overseas shipment.
   B. more crops than livestock.
   C. mainly wheat
   (D.) no crops

9. Which business would likely be most successful in Russell?

   A. Manufacturing
   B. Mining
   C. Ship building
   (D.) Selling farm equipment



10. Which street divides the city into the north and south sides of town?

A. 1st Street N. (C.) Main Street
B. 1st Street S. D. Adams Street

11. What building is on the corner of 3rd and Washington Streets?

A. Grocery Store C. Bank
B. School (D.) Drug Store

12. Bob was hurt in Gym class and was taken to the hospital. How many blocks did he have to go?

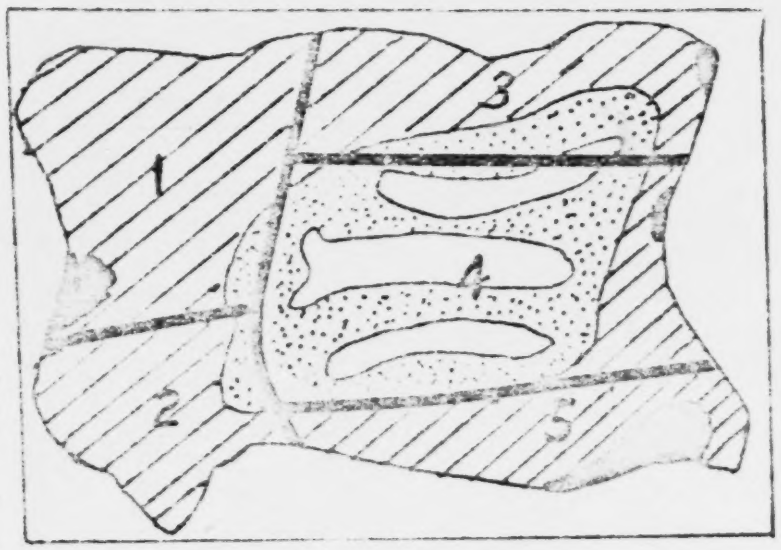
(A.) 3 blocks C. 1 block
B. 6 blocks D. 5 blocks

13. Which street is two blocks north of Main Street?

A. Adams Street C. Washington Street
(B.) Lincoln Street D. Jefferson Street

14. Sally lives on the S.E. corner of Washington and 1st Streets. John lives on the S.W. corner of Washington and 3rd Streets. Which lives closer to school?

A. Sally
(B.) John
C. Neither--same distance
D. Can't tell from the map

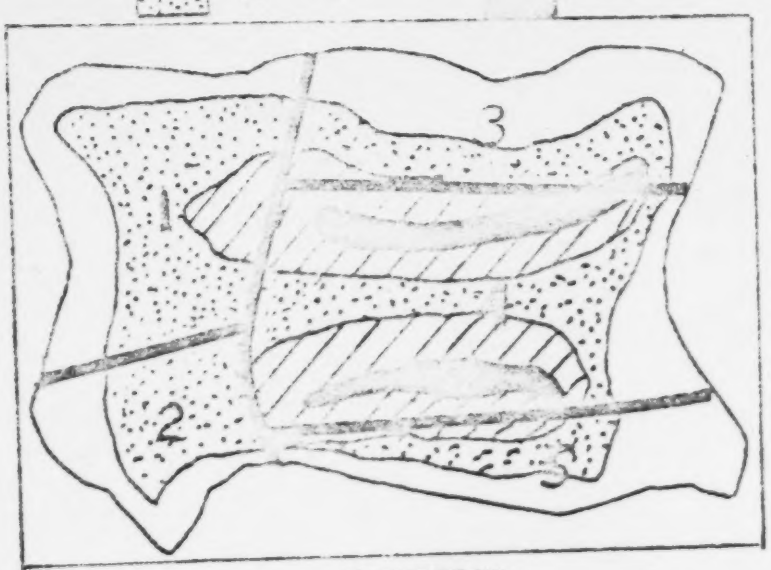


POPULATION

Number of people per square mile

0 - 10 | 40 - 100

10 - 40 | over 100

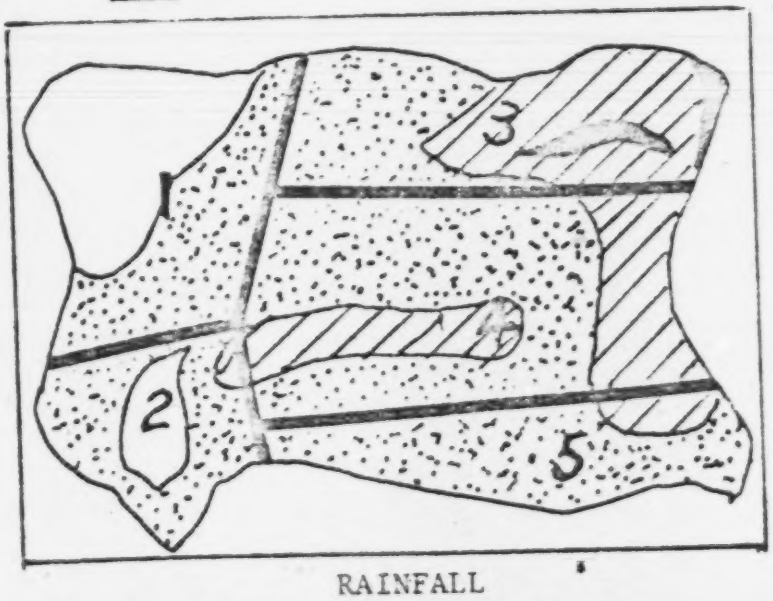


ELEVATION

Number of feet above sea level

0 - 500 | 1,000 - 3,000

500 - 1,000 | over 3,000



RAINFALL

Inches per year

10 - 20 | 40 - 100

20 - 40 | over 100

15. Where does the most rain fall?

A. On the south coast
B. In state 5
(C) In northeastern state 3
D. in the mountains

16. The largest city is most likely in

A. the mountains
B. State 2
C. State 3
(D) Southeastern State 5

17. It is likely that there are good crops but few people living

A. in northwestern State 1
(B) between the mountain ranges
C. in the center of State 2
D. in northeastern State 3

18. In which state is there no place where the population is less than 40 persons per square mile?

A. State 1
(B) State 5
C. State 3
D. State 4

19. The city with the most rainfall is in

A. State 1
B. State 5
(C) State 3
D. State 4

20. In State 2 the highest land area is

(A) not over 1,000 feet
B. more than 3,000 feet
C. less than 500 feet
D. between 1,000 and 3,000 feet

21. Most of the mountains are in

A. State 3
B. State 5
(C) State 4
D. State 1

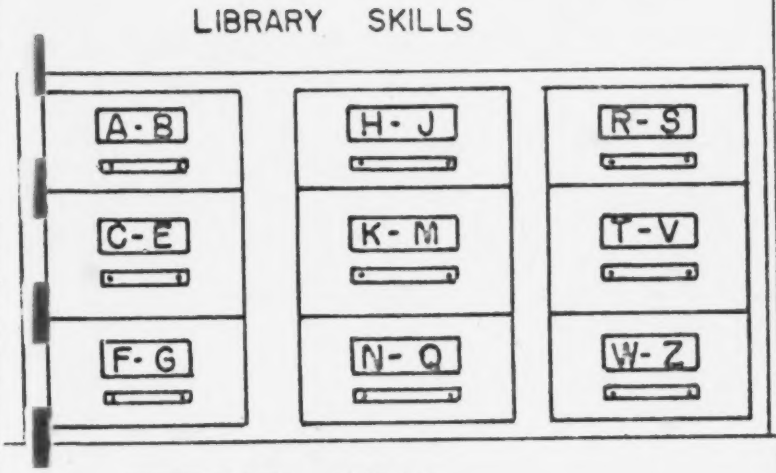
22. The place where states 3, 1, and 4 come together

A. has a big city
B. is one of the wettest places in these three states
C. has less than 10 inches of rain each year
(D) is over 1,000 feet high

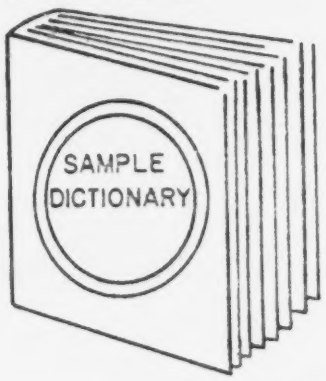
APPENDIX B

1. Diagnostic Test Form A

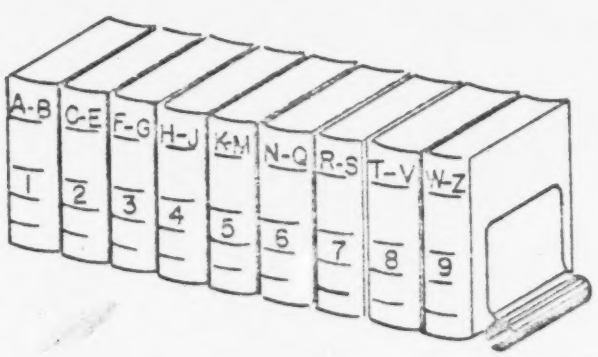
LIBRARY SKILLS



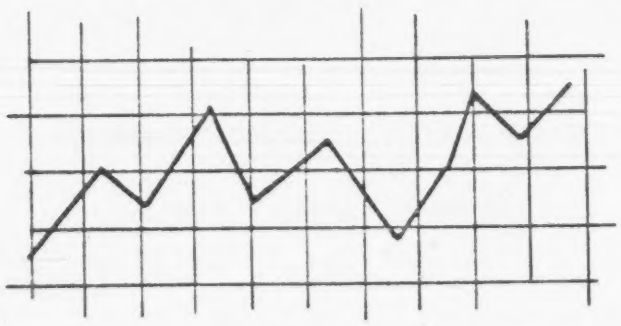
DICTIONARY SKILLS



REFERENCE SKILLS



READING GRAPHS AND TABLES



MAP READING SKILLS

RESEARCH STUDY SKILLS TEST

J. HARLAN SHORES

MARY C. NEWLAND

Name _____
Last First

Grade _____ Teacher _____

Date _____ Sex _____ Age _____
Boy or Girl

When Is Your Birthday ? Month _____ Day ____

School _____ City _____

RESULTS

	SCORE
Library Skills	
Dictionary Skills	
Reference Skills	
Reading Graphs and Tables	
Map Reading Skills	

Form A

Key

TEST A-1: LIBRARY SKILLS

Directions: This is a test of how to use the library. Four answers are given for each question, but only one of these answers is the best one. You are to choose the one answer that you think is better than the others. Then draw a circle around the letter in front of that answer.

1. What purpose does the card catalog serve?

   A. To list books which may be bought.
   B. To show that library cards are needed.
   C. To show which books have been taken out of the library.
   (D) To list the authors, titles and subjects of books in the library.

2. Sinclair Lewis was an American author who wrote many books. If you had just read his book Arrowsmith, and wanted more of his books, which library card catalog drawer would you use?

   A. The A drawer.
   (B) The K–L drawer.
   C. The Sa–Sm drawer.
   D. The Sn–Sz drawer.

3. Where would you look to find the most recent information on the population of California?

   A. an encyclopedic
   (B) *The World Almanac*
   C. a dictionary
   D. a social studies book

4. The best place to look to find the most complete maps of India would be

   A. an encyclopedia
   B. *The World Almanac*
   (C) an atlas
   D. a geography book

5. In placing fiction books on a shelf in a library, how can you tell which book should come first, second, third, etc. on the shelf?

   A. Date book was published.
   (B) Author's name.
   C. Subject of book.
   D. How often the book is used.

6. In placing non-fiction books on a shelf in a library, what do you consider first to decide where on the shelf the book should be placed?

   A. Date book was published.
   B. Author's name.
   (C) Subject of book.
   D. How often the book is used.

7. If you wanted to find out whether a book had any information on Abraham Lincoln, where in that book would you look to find out?

   A. Table of Contents
   B. Appendix
   C. Glossary
   (D) Index

8. If you didn't understand the meaning of a hard word in the book you were reading, where in that book would you look to find the meaning?

   A. Appendix
   B. Bibliography
   (C) Glossary
   D. Index

Listed below are the numbers and topics used in the Dewey Decimal System. For questions 9 and 10, use these Dewey numbers and topics to decide where to find the most information.

The Dewey Decimal System

000 - 099 General Works
100 - 199 Philosophy
200 - 299 Religion
300 - 399 Social Sciences
400 - 499 Languages
500 - 599 Pure Science
600 - 699 Applied Science
700 - 799 Arts and Recreation
800 - 899 Literature
900 - 999 History

9. Where would you look in the library to find an encyclopedia?

   A. 400 - 499
   B. 800 - 899
   (C) 000 - 099
   D. 300 - 399

10. Where would you find out about different kinds of people and where they are living now?

    A. 900 - 999
    B. 000 - 099
    C. 500 - 599
    (D) 300 - 399

Instructions to Students

This is a test of research study skills. These are the skills needed to use the library, use a dictionary, look up topics in reference books, and read graphs, tables and maps.

Several answers are given for most questions, but only one answer is the best one. For these questions, you are to choose the one best answer and circle the letter in front of the answer you choose. There is no answer sheet for this test. You are to mark your answers in the test booklet.

The sample below shows you how to mark your answers.

Sample Exercise

Which of these words comes first in a dictionary?

A. pet
(B.) pack
C. pretty
D. pond

All of these words begin with p, so you would go to the next letter. Since a comes before e, o, or r, pack is the best answer. The letter in front of pack is circled to show that it is the best answer.

Read the directions for each part carefully. Try to answer every question, but don't spend too much time on any one question. When you finish one part, go right on to the next. You will have 30 minutes for this test.

DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.

TEST B–1: DICTIONARY SKILLS

Circle the letter before the best choice.

11. Which of these words would come first in a dictionary?

(A) rigger
B. rigor
C. rigid
D. right

12. Listed below are guide words found on four pages of a dictionary. On which page would you find the word solid?

A. solution - solvent
(B) solicitor - solo
C. solar - solicit
D. Solomon - solvent

13. If you didn't know how to spell the word meaning more than one "calf", how should you use the dictionary to find out how to spell this word?

A. Guess how the word might be spelled and look up that word.
(B) Look up the word "calf".
C. Look through all words beginning with the letter "c".
D. Look up a word meaning something like "calf" such as "cow" or "cattle".

Use the sample dictionary and pronunciation guide on the opposite page to help you answer questions 14 through 18.

14. If you looked up the word "smear" in the dictionary and found a small "n" after it, the best choice of meaning would be

(A) a smudge. "Chocolate made a smear on her dress."
B. to spread with oil, paint, etc. "Be careful not to smear the oil on the fender of the car."
C. to make nasty remarks. "The magazine article smeared him."
D. to rub over something to make a stain. "If it is not dry, it will smear when you touch it."

15. If you come to the end of a line you are writing and find yourself in the middle of the word carburetor, it would be correct to divide it after the letters

A. ca
(B) carbu
C. carb
D. carbur

16. In the word cursory, the u is said like the u in

A. cup
(B) fur
C. cue
D. duty

17. The word marionette has four syllables. Which syllable should have the greatest force when it is spoken?

A. mar
B. i
C. o
(D) nette

18. Which sentence below tells about a nonchalant person?

A. She screamed when she saw the monster.
B. He was excited when he won the prize.
(C) He smoked his pipe slowly as the big snake came nearer.
D. She cried through the entire picture.

SAMPLE DICTIONARY

car·bu·re·tor *(kär´bə rā tər)*, n. the part of a motor or engine that mixes air with gasoline to make an explosive gas.

cur·so·ry *(kûr´sər i)*, adj. done quickly and without much care [She gave the mending a *cursory* glance.] --cur´·so·ri·ly, adv.

mar·i·o·nette *(mar i ə net´)* n. a doll or puppet that is moved by strings, wires or the hands and may be used for shows on a small stage.

non·cha·lant *(nän´ shə lənt)* adj. showing little care or concern; easy going; casual [He is *nonchalant* about his appearance.] --non´·cha·lance, n. non´·cha·lant·ly, adv.

non·en·ti·ty *(nän en´tə ti)* n. a person or thing which has no importance. --non·en´·ti·ties, pl.

phleg·mat·ic *(fleg mat´ ik)*, adj. not easily excited or made active; slow or sluggish; cool and calm. [The *phlegmatic* man showed no concern about the accident.]

pre·serve *(pri zûrv´)*, v. 1. to save from harm or ruin; protect [to *preserve* our wild life.] 2. to keep from decaying or spoiling. 3. to keep food for later use by canning or pickling. 4. to keep up; maintain. [He tried to *preserve* his calmness.] --n. 1. fruit cooked with sugar and canned to make *preserves*. 2. a place where animals or trees are protected or controlled. [a wildlife *preserve*.] --pre·served´, p.t. & p.p.; pre·serv·´ing, pr. p.

smear *(smir)*, v. 1. to cover all or part with something dirty, oily, sticky, etc. [He *smeared* grease on the slide.] 2. to rub or spread. [*Smear* some butter on the bread.] 3. to make an unwanted smudge [He *smeared* his picture with his arm.] 4. to soil as one's reputation; to slander; to sully. [The magazine *smeared* his chances of getting elected.] --n. a stain, spot or mark perhaps made by smearing. 2. the act of smearing or slander.

sur·geon *(sûr´jən)*, n. a medical doctor who practices surgery.

tur key *(tûr´ ki)* n. 1. a large bird native to North America which is prized as food. 2. the meat of the bird [Please pass the *turkey*.]

vol·un·teer *(väl ən tir´)*, n. a person who offers himself for service or duty of his own free will. [He is a *volunteer* in the army.] --adj. made up of volunteers or done by volunteers [a *volunteer* group; *volunteer* blood donors.] v. 1. to offer or give by one's own choice [He *volunteered* his work. She volunteered to make the trip.] 2. to enter into a service, such as the armed services, by one's own free choice. [He *volunteered* for active duty as a Marine.]

PRONUNCIATION GUIDES

fat āpe cär ten ēven hit bīte gō

hôrn tōol book up fûr get joy yet

chin she thin then zh = s in pleasure

ə = a in ago

e in agent

i in sanity

o in confess

u in focus

TEST C-1: REFERENCE SKILLS

Table of Contents

In the blank before each question, put the number of the page where you would find the most information. Use the Table of Contents on the right side of this page.

46 19. On what page would you look to find something about the Watusi people who live mainly in east central Africa?

57 20. On what page would you look to find something about how people try to get along with other people in the world?

35 21. Where might you learn how to be a good citizen?

62 22. Where would you look for information about travel, airplanes, the automobile, T.V., and radio?

TABLE OF CONTENTS

A Guide to the Social Studies in the Elementary Grades

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- Rocky Mountain States 18
- Pacific States 19
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HOW THE COLONIES WON THEIR INDEPENDENCE
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Use of Index

Use the index to the right to answer questions 23, 24, and 25. Circle the letter before the best choice.

23. If you were looking at the map of California, what volume and page would you be using?

A. 7/272
(B.) 10/168
C. 14/446
D. 10/179-182

24. If you wanted more information about the cows in the dairy industry, where would you look?

A. 3/100-202
B. 9/379-383
C. 12/412-413
(D.) 12/421-423

25. Where would you look to find out about farming in Canada?

(A.) 1/42-43
B. 12/410-422
C. 3/185-211
D. 16/203-206

Key Words

When using an encyclopedia, we look up the key word--the word which is most likely to tell about what we want. For each of the questions below, circle the letter before the one best key word.

26. If you wanted to find out how to play Rugby, a game like football or soccer which is played in England, where would you look?

(A.) Rugby
B. Football
C. Soccer
D. Games

27. If you were looking in an encyclopedia to find pictures of a perch, shark, and tuna, in which volume might you find all of them?

A. The "P" volume
B. The "S" volume
C. The "T" volume
(D.) The "F" volume

28. If you wanted to know whether a Brown Swiss cow gives more milk than a Jersey cow, what would you look up?

A. Jersey
(B.) Cattle
C. Brown Swiss
D. Food, dairy

INDEX

Abolitionist, 17/410; Brown, John 17/403; Garrison, William L: 4/292; See also Slavery; Civil War.

Acting, kinds of acting 14/251-252; qualifications 14/254; See also Actors and Actresses.

Actinium, 3/282.

Actors and actresses; Allen, Fred 15/462; Chaplin, Charles 14/448; Hayes, Helen 14/243; Kaye, Danny 15/463; Montgomery, Robert 14/248; Valentino, Rudolph 14/465; See also Acting Career.

Agriculture, 3/185-211; 16/127-148: Canada 1/42-43; cereal grains 3/190-194; Middle Ages 12/100-1-2; pests 16/203-206; U.S. Land use 12/399-402.

California, 10/179-182; flag (illus.) 7/272; general information (table) 10/190; industry 5/76-87; map 10/168; population 10/167; See also Hollywood; Los Angeles; San Francisco.

Cattle, 12/410-422; beef cattle 9/379-383; breeding 9/396-400; dairy cows 12/421-423; sacred in India 5/176; stomach 8/257; wild cattle 12/412-413.

Civil War, 17/221-225; battles and campaigns 17/228-234; Confederate flag (illus.) 18/10; secession 17/224-225; See also Reconstruction period.

Cow, See Cattle; Dairying.

Crowfoot, See Buttercup

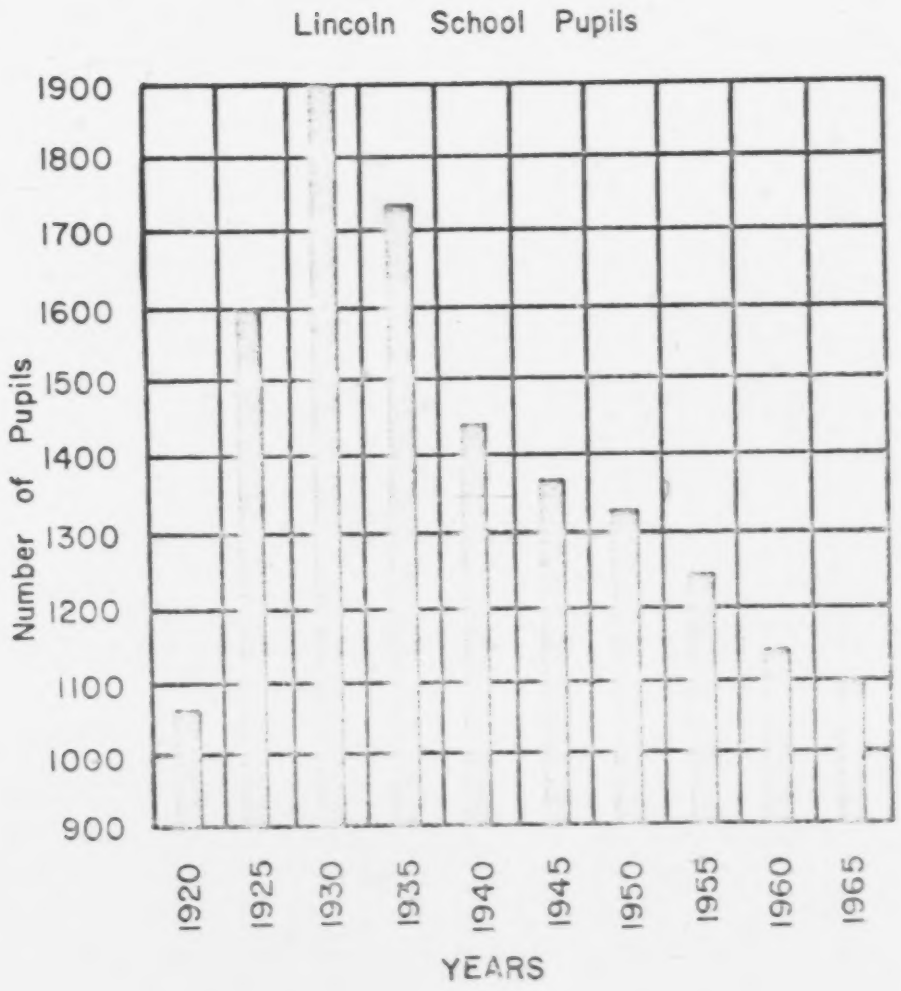
Dairying, careers in 3/100-202; cooperatives in Denmark 14/274; cooperatives in U.S. 16/398; sanitation 9/381; See also Cattle, dairy.

Factory; See Assembly line; Automation; Industrial Revolution; Manufacturing; Mass production.

Farming, See Agriculture; Gardening, Gardens.

Fruit, 5/72-91; annual amount used (table) 8/319-320; California production 10/181-182; citrus fruits 5/84-87; Florida's fruits 9/154; Middle Ages 1/257; See also Seed.

Hollywood, Cal; growth 14/441; map 14/446.



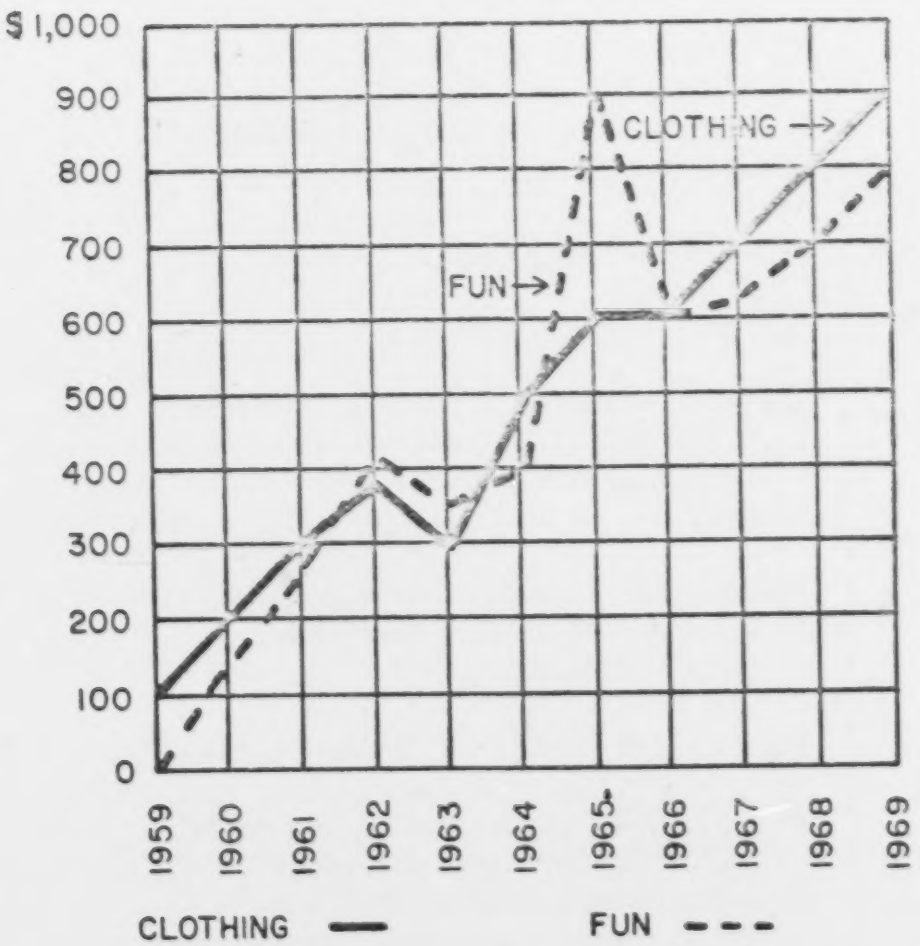
Use the graph to the left to answer questions 29 and 30.

29. Since 1930, the number of pupils in Lincoln School has been

A. staying the same.
B. growing larger.
C. going up one five year period and down the next.
(D.) growing smaller.

30. In what years was the number of pupils the highest and lowest?

A. Highest in 1925 and lowest in 1940.
(B.) Highest in 1930 and lowest in 1920.
C. Highest in 1930 and lowest in 1965.
D. Highest in 1935 and lowest in 1920.



Use the graph to the left to answer questions 31 and 32.

31. During which year did this family spend the same amount for clothing as they spent for fun?

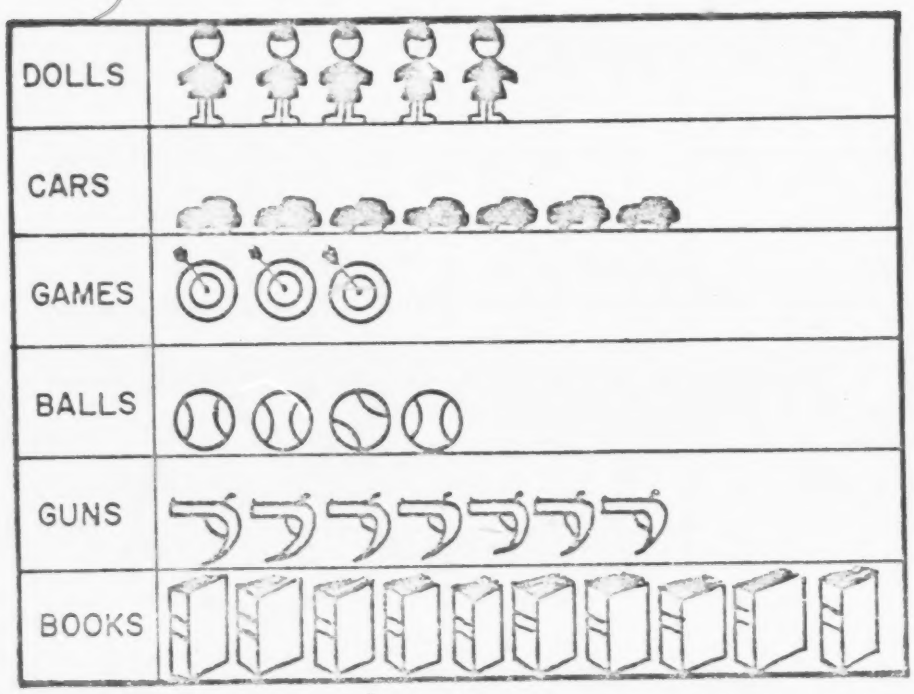
A. 1963
B. 1964
(C.) 1966
D. 1968

32. One year the family decided to try to save money. During this year, they spent less than they had spent the year before for both fun and clothing. Which year was this?

(A.) 1963
B. 1965
C. 1961
D. 1967

Use the graph to the right to answer questions 33 and 34.

MR. JONES' SALES RECORD FOR ONE DAY



33. What two items added together sold the same number as did books?

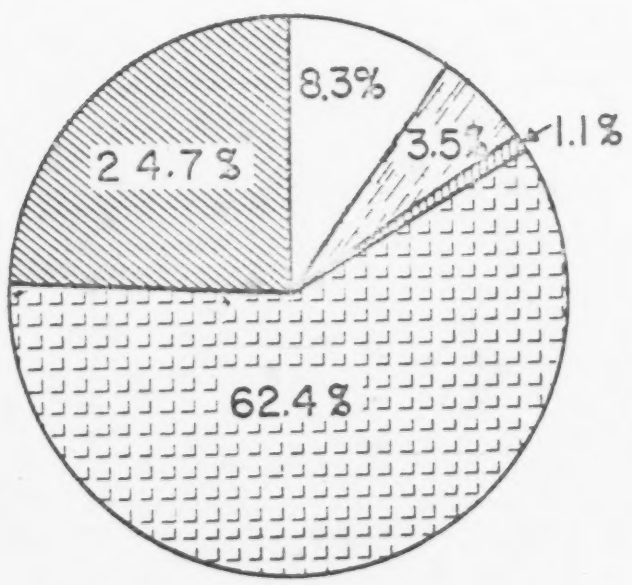
(A) Guns and games
B. Dolls and cars
C. Guns and balls
D. Cars and guns

34. What item sold twice as well as dolls?

A. Guns
(B) Books
C. Cars
D. Balls

Use the graph to the right to answer questions 35 and 36.

WAYS OF GOING TO SCHOOL IN FAIRVIEW



LEGEND

WALK
AUTO
BUS
STREETCAR
OTHER

35. More than ½ of the children went to school by

A. Auto
B. Bus
C. Streetcar
(D) Walking

36. The second most popular way of going to school is by

A. Auto
B. Walking
(C.) Bus
D. Streetcar

SPELLING SCORES -- NUMBER RIGHT
10 WORDS PER DAY

NAME	MON	TUES	WED	THURS	FRI	TOTAL
SUE	6	6	8	9	9	38
MARY	6	5	7	8	8	34
BILL	9	9	9	10	10	47
SALLY	7	6	6	6	5	30
JOE	2	3	3	4	6	18
CLARA	7	5	9	8	8	37
LEE	10	10	9	10	10	49
BOB	10	10	10	10	10	50
Daily Total	57	54	61	65	66	303

Use the table to the left to answer questions 37 and 38.

37. The lowest total scores were made by the pupils on

A. Monday
B. Tuesday
C. Wednesday
D. Thursday

38. The pupil who made the lowest score for all the tests together was

A. Clara
B. Sally
C. Joe
D. Mary

TEST E–1: MAP READING SKILLS

The two maps to the right show a make-believe state. The map at the top is a physical-political map showing the oceans, rivers, mountains, cities, railroads and highways. The map below this one shows the livestock and grain products of this same state. Use these two maps to answer questions 39-42.

39. To travel from Harvey to Philo by car, you would have to go first to

A. Jaysville
(B) Russell
C. Dillon
D. Leesburg

40. Which city is connected by railroad to both a lake and the ocean?

A. Shores
(B) Dillon
C. Philo
D. Jaysville

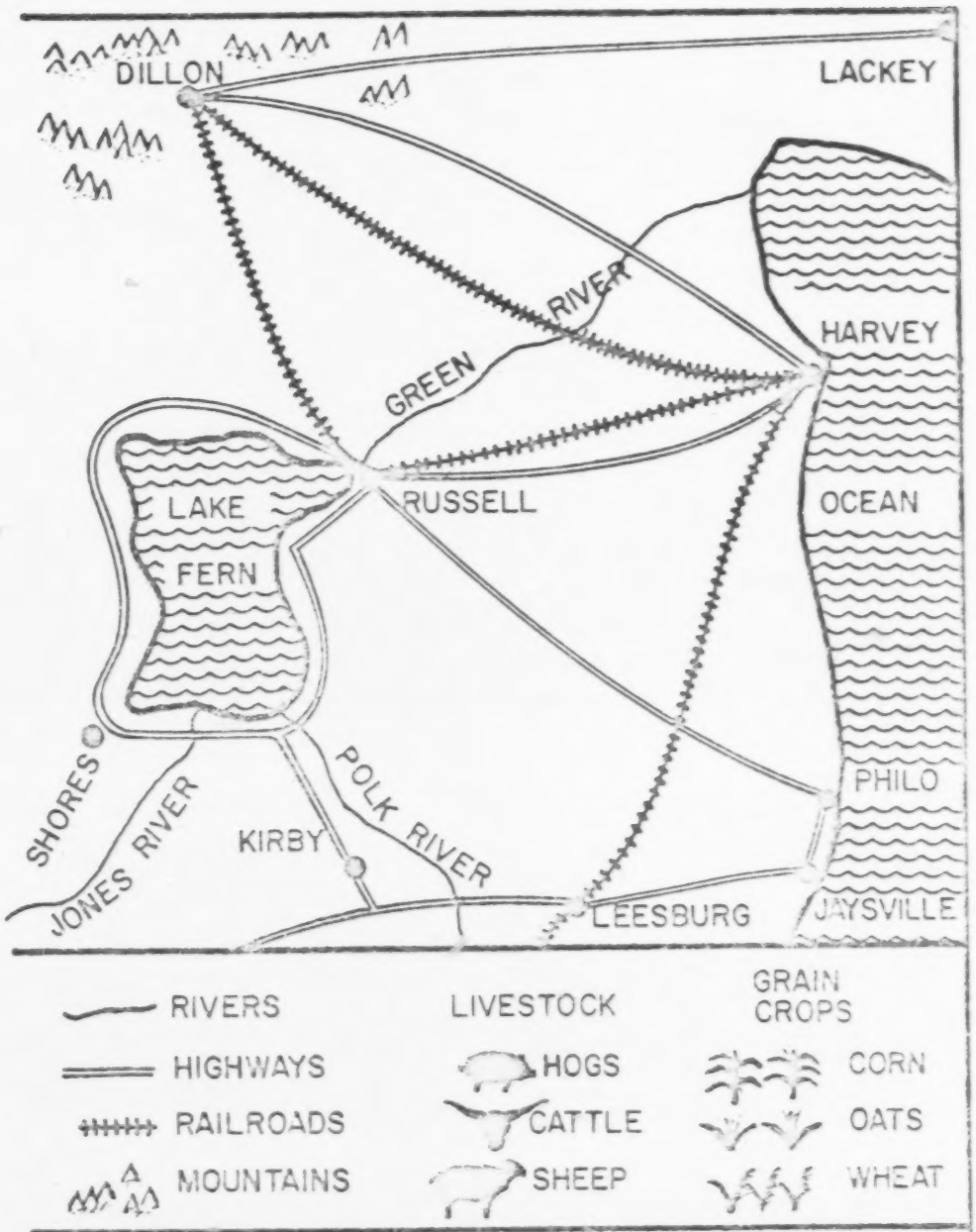
41. Which is likely to be the largest port for shipping grain crops overseas?

(A) Harvey
B. Philo
C. Jaysville
D. Russell

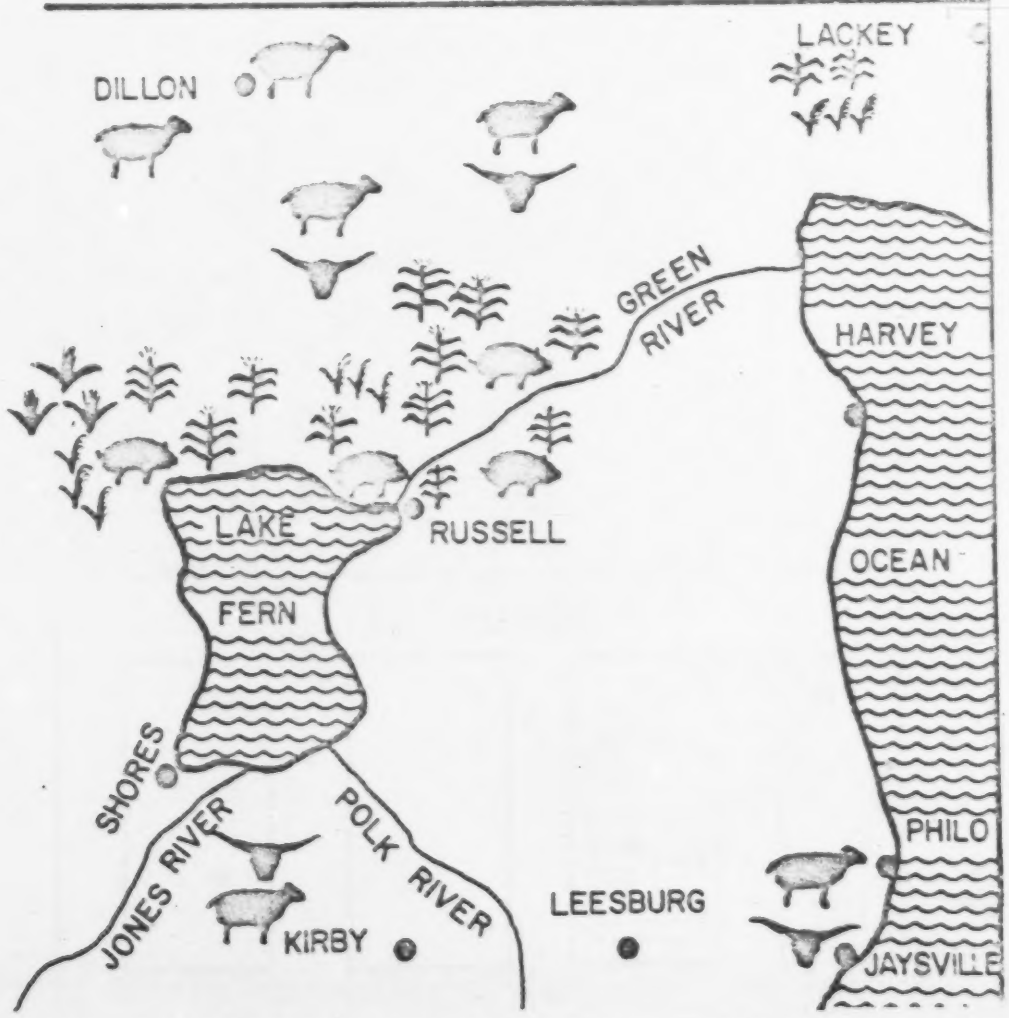
42. In this area cattle are most often found with

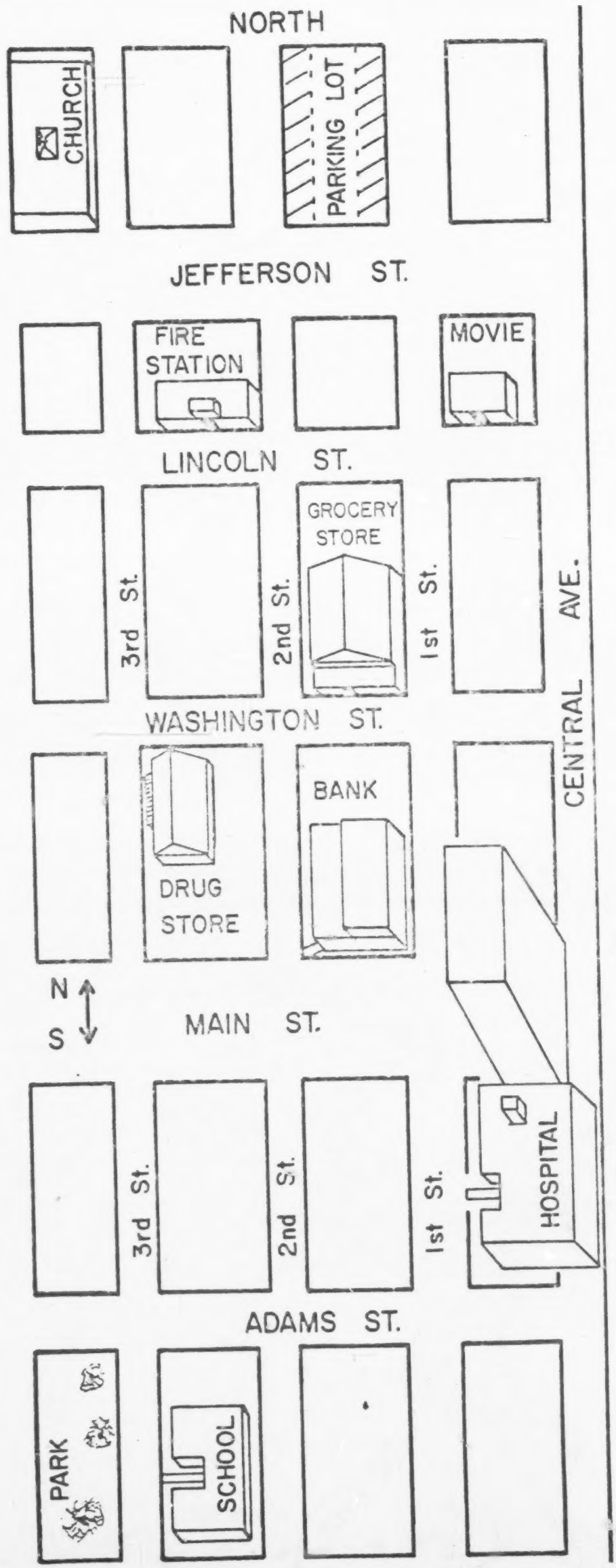
(A) Sheep
B. Wheat
C. Hogs
D. No other crop or animal

PHYSICAL POLITICAL MAP



PRODUCT MAP





The picture map on the left shows part of a town. The streets and important buildings are named. Use this map to answer questions 43-44.

43. What building is on the corner of 3rd and Washington Streets?

A. Grocery Store
B. School
C. Bank
(D.) Drug Store

44. Sally lives on the corner of Washington and 1st Streets. John lives on the corner of Washington and 3rd Streets. Which one lives closer to school?

A. Sally
(B.) John
C. Neither--same distance
D. One cannot tell from the map

There are three maps to the right on this page. All three show the same place. The numbers 1, 2, 3, 4 and 5 show the different states. The top map is a population map (number of people living in the areas); the middle map is an elevation map (high and low places in the areas); and the bottom map is a rainfall map (amount of rain in the areas). Use these maps to answer questions 45-48 below.

45. The largest city is most likely in

A. the mountains
B State 2
C. State 4
(D.) Southeastern State 5

46. In which state do all areas have a population greater than 39 persons per square mile?

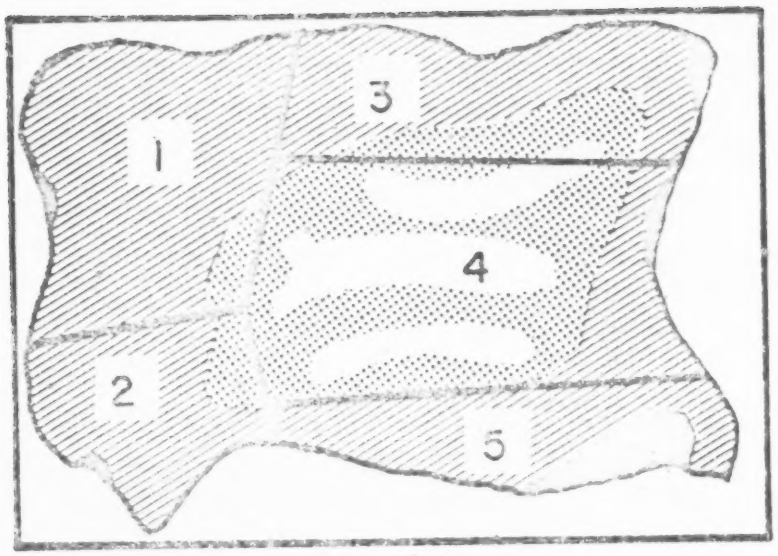
A. State 1
(B.) State 5
C. State 3
D. State 4

47. The city with the least rainfall is in

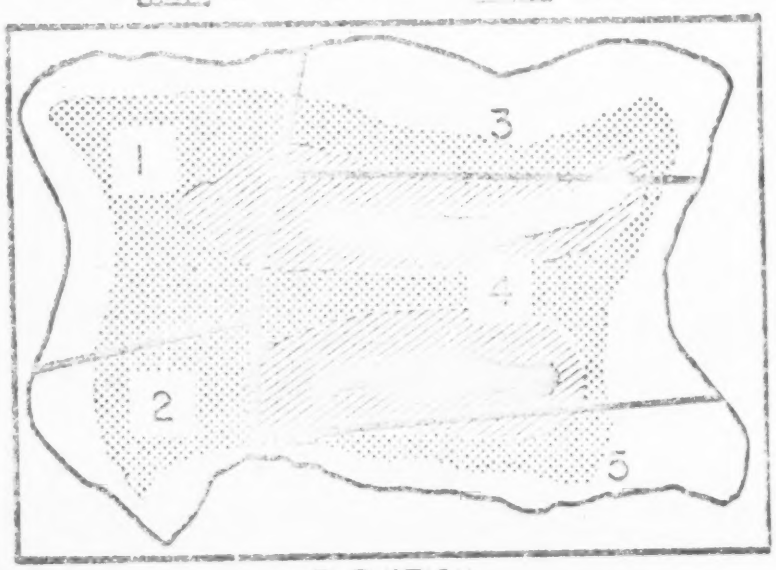
(A.) State 1
B. State 5
C. State 3
D. State 4

48. The place where states 3, 1 and 4 come together.

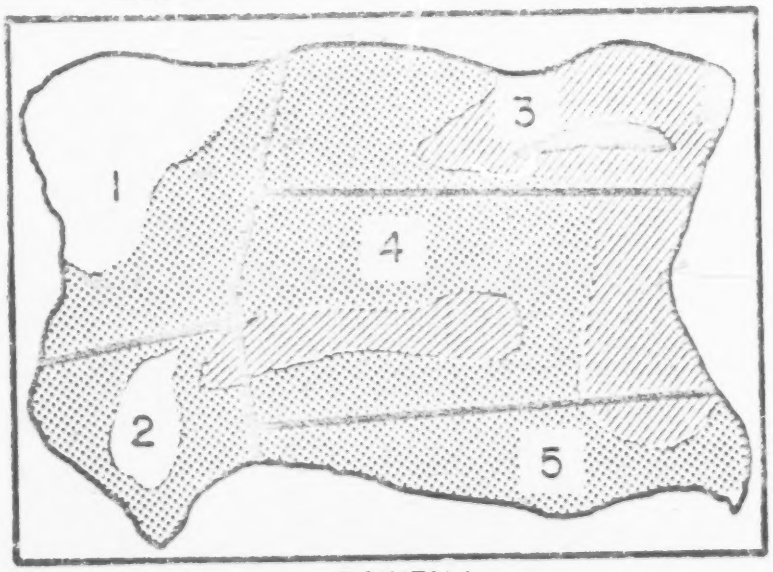
A. has a big city.
B. is one of the wettest places in these three states.
(C.) is over 1,000 feet high.
D. has about 10 inches of rain each year.



POPULATION
NUMBER OF PEOPLE PER SQUARE MILE
0 – 10
10 – 40
40 – 100
over 100



ELEVATION
NUMBER OF FEET ABOVE SEA LEVEL
0 – 500
500 – 1,000
1,000 – 3,000
over – 3,000



RAINFALL
INCHES PER YEAR
10 – 20
20 – 40
40 – 100
over 100

APPENDIX B

2. Summary Statistics, Form A

APPENDIX B -- ITEM 2

SUMMARY STATISTICS
Original Administration -- Form A

Test	Grade	No. of Items	No. of Cases	M	S.D.
Library	4	10	96	3.36	1.86
Dictionary	4	8	96	3.38	1.75
Reference	4	10	96	3.18	2.18
Graphs & Tables	4	10	96	5.17	1.75
Map Reading	4	10	96	3.45	2.14
Total	4	48	96	18.10	7.90
Library	5	10	209	4.64	1.94
Dictionary	5	8	209	3.98	1.66
Reference	5	10	209	4.25	2.39
Graphs & Tables	5	10	209	5.54	2.69
Map Reading	5	10	209	3.56	2.55
Total	5	48	209	21.99	8.29
Library	6	10	90	4.70	1.94
Dictionary	6	8	90	4.59	2.29
Reference	6	10	90	5.54	2.61
Graphs & Tables	6	10	90	6.99	2.76
Map Reading	6	10	90	5.53	2.03
Total	6	48	90	27.37	9.11
Library	4,5,6	10	395	4.34	1.99
Dictionary	4,5,6	8	395	3.96	1.82
Reference	4,5,6	10	395	4.29	2.52
Graphs & Tables	4,5,6	10	395	5.69	2.7
Map Reading	4,5,6	10	395	3.98	2.49
Total	4,5,6	48	395	22.28	8.96

APPENDIX B

3. Item Analysis Data, Form A

Grade 4
Grade 5
Grade 6

APPENDIX B -- ITEM 3

ITEM ANALYSIS DATA
Form A -- Original Administration
Grade 4 -- 96 Cases

Item Number	Alternatives								Difficulty Percent	Disc. Power
	Upper 27%				Lower 27%					
	A	B	C	D	A	B	C	D		
1	3	0	1	22*	3	10	6	7*	52.7	.58
2	8	7*	9	2	12	4*	6	4	20.8	.12
3	11	10*	0	5	4	6*	13	3	36.6	.15
4	2	3	13*	8	7	10	3*	6	29.5	.38
5	6	14*	6	0	9	4*	10	3	32.3	.38
6	1	5	20*	0	9	8	7*	2	45.7	.50
7	12	0	1	13*	10	6	5	5*	29.5	.31
8	1	1	23*	1	4	3	8*	11	66.0	.58
9	2	11	5*	8	6	12	2*	6	15.9	.12
10	18	0	1	7*	11	2	9	4*	18.0	.12
11	20*	0	1	5	11*	7	2	6	68.4	.35
12	1	18*	5	2	5	9*	7	5	59.6	.35
13	0	15*	4	7	4	9*	7	6	41.1	.23
14	4*	8	6	8	5*	8	5	8	19.6	Neg.
15	1	11*	9	5	2	5*	11	8	24.5	.23
16	4	20*	0	2	9	8*	8	1	51.1	.46
17	8	1	1	16*	9	9	4	4*	40.9	.46
18	2	5	16*	3	5	8	5*	8	40.0	.42
19	46* Right 17		Wrong 9		Right 4 (46)* Wrong 22				40.7	.50
20	57* Right 2		Wrong 24		Right 2 (57)* Wrong 24				8.4	.00
21	35* Right 21		Wrong 5		Right 4 (35)* Wrong 22				51.2	.65
22	62* Right 12		Wrong 14		Right 1 (62)* Wrong 25				25.3	.42
23	3	15*	0	8	5	6*	5	10	35.5	.35
24	4	2	0	20*	11	2	6	7*	42.7	.50
25	8*	4	9	5	3*	9	8	6	19.1	.19
26	16*	0	1	9	6*	10	3	7	37.8	.38
27	3	3	2	18*	5	9	8	4*	42.5	.54
28	0	19*	4	3	6	4*	8	8	42.7	.58
29	1	10	2	13*	5	13	5	3*	29.0	.38
30	2	20*	3	1	2	11*	7	6	56.8	.35
31	0	7	16*	3	8	4	4*	10	36.4	.46
32	15*	3	4	4	7*	6	4	9	32.6	.31
33	24*	0	0	2	8*	7	3	8	54.8	.62
34	0	22*	2	2	4	12*	4	6	60.4	.38
35	0	0	2	24*	4	8	5	9*	59.6	.58
36	1	0	25*	0	5	8	8*	5	58.4	.65
37	4	19*	2	1	11	7*	3	5	50.0	.46
38	2	0	24*	0	4	7	11*	4	75.3	.50
39	0	25*	0	1	5	12*	5	4	65.9	.50
40	2	20*	2	2	8	7*	8	3	52.4	.50
41	12*	1	3	10	8*	7	2	9	37.0	.15
42	20*	2	2	2	9*	5	4	8	52.4	.42
43	5	0	1	20*	9	5	11	1*	32.5	.73
44	2	14*	5	5	5	10*	8	3	42.9	.15
45	0	1	15	10*	4	7	8	7*	28.0	.12
46	7	8*	2	9	4	8*	5	9	28.4	.00
47	18*	2	5	1	9*	4	3	10	45.3	.35
48	4	8	7*	7	1	2	10*	13	22.5	Neg.

* Indicates correct response

APPENDIX B -- ITEM 3

ITEM ANALYSIS DATA
Form A -- Original Administration
Grade 5 -- 209 Cases

Item Number	Alternatives								Difficulty Percent	Disc. Power
	Upper 27%				Lower 27%					
	A	B	C	D	A	B	C	D		
1	0	0	0	56*	2	7	13	34*	80.4	.39
2	20	26*	8	2	35	11*	5	5	24.9	.27
3	12	41*	1	2	21	19*	13	3	45.9	.39
4	7	2	40*	7	8	12	14*	22	42.6	.46
5	2	44*	10	0	14	25*	15	2	57.4	.34
6	3	29	33*	1	11	24	15*	6	39.7	.32
7	21	1	1	33*	24	5	12	15*	46.9	.32
8	0	0	55*	1	5	10	24*	17	81.9	.55
9	1	16	27*	12	9	16	13*	18	30.1	.25
10	31	2	4	19*	24	8	10	14*	23.9	.09
11	48*	0	1	7	37*	5	3	11	76.6	.20
12	6	46*	3	1	4	27*	18	7	67.0	.34
13	6	37*	2	11	6	12*	15	23	41.1	.45
14	14*	13	13	16	11*	17	15	13	23.4	.05
15	1	21*	18	16	5	17*	17	17	29.2	.07
16	3	47*	5	1	8	20*	20	8	59.3	.48
17	9	2	2	43*	20	7	9	20*	49.8	.41
18	3	5	43*	5	14	13	20*	9	51.7	.41
19	46* Right 47		Wrong	9	Right 28 (46)*		Wrong	28	67.5	.34
20	57* Right 23		Wrong	33	Right 5 (57)*		Wrong	51	18.9	.32
21	35* Right 42		Wrong	14	Right 25 (35)*		Wrong	31	57.9	.30
22	62* Right 28		Wrong	28	Right 13 (62)*		Wrong	43	32.6	.27
23	5	41*	2	8	14	13*	5	24	44.2	.50
24	5	2	1	48*	16	7	10	23*	54.3	.45
25	43*	6	5	2	17*	8	20	11	43.7	.46
26	33*	4	1	18	6*	8	8	34	33.2	.48
27	3	2	0	51*	15	18	8	15*	60.2	.64
28	2	30*	5	19	4	22*	11	19	45.9	.21
29	1	14	2	39*	4	29	7	16*	43.0	.41
30	0	42*	11	3	9	25*	11	11	61.0	.30
31	6	8	37*	5	17	11	7*	21	40.3	.54
32	35*	7	9	5	10*	11	15	20	34.4	.45
33	48*	1	2	5	18*	10	6	22	56.7	.54
34	0	53*	2	1	10	21*	3	22	70.3	.57
35	0	1	0	55*	6	16	8	26*	74.0	.52
36	1	0	55*	0	9	12	30*	5	74.5	.45
37	9	47*	0	0	15	25*	8	8	62.0	.39
38	0	1	54*	1	8	6	35*	7	81.2	.34
39	0	54*	0	2	6	25*	13	12	74.7	.52
40	0	47*	7	2	9	22*	8	17	54.7	.45
41	25*	4	7	20	16*	11	9	20	34.8	.16
42	42*	6	4	4	28*	13	7	8	65.2	.25
43	8	1	2	45*	15	4	8	29*	64.2	.29
44	5	39*	9	3	16	20*	14	6	52.4	.34
45	1	1	25	29*	5	12	31	8*	33.6	.38
46	12	23*	8	13	12	12*	13	19	27.1	.20
47	41*	2	9	4	16*	9	19	12	50.8	.45
48	10	12	21*	13	8	19	18*	11	31.5	.05

* Indicates correct response

APPENDIX B -- ITEM 3

ITEM ANALYSIS DATA
Form A -- Original Administration
Grade 6 -- 90 Cases

Item Number	Alternatives								Difficulty Percent	Disc. Power
	Upper 27%				Lower 27%					
	A	B	C	D	A	B	C	D		
1	0	0	2	22*	1	3	9	11*	67.8	.46
2	5	16*	3	0	11	1*	9	3	31.5	.63
3	7	17*	0	0	13	5*	1	5	42.2	.50
4	2	1	19*	2	6	5	6*	7	54.4	.54
5	0	20*	4	0	9	8*	6	1	51.7	.50
6	2	9	13*	0	3	11	5*	5	45.5	.33
7	15	0	0	9*	8	3	5	8*	38.9	.04
8	1	0	22*	1	0	1	15*	8	80.0	.29
9	1	7	9*	7	3	10	4*	7	28.6	.21
10	10	6	0	8*	9	2	3	10*	34.5	Neg.
11	22*	0	1	1	16*	1	3	4	77.8	.25
12	0	24*	0	0	2	11*	9	2	74.2	.54
13	0	23*	0	1	6	3*	3	12	61.8	.83
14	12*	4	5	3	2*	12	5	5	23.9	.42
15	1	15*	6	2	5	6*	7	6	44.9	.38
16	0	23*	1	0	8	9*	5	2	59.3	.58
17	1	0	0	23*	5	1	4	14*	64.4	.38
18	0	0	23*	1	1	10	6*	7	58.4	.71
19	46* Right 21 Wrong 3				46* Right 13 Wrong 11				72.1	.33
20	57* Right 8 Wrong 16				57* Right 3 Wrong 21				25.3	.21
21	35* Right 21 Wrong 3				35* Right 18 Wrong 6				83.3	.13
22	62* Right 20 Wrong 4				62* Right 7 Wrong 17				53.7	.54
23	0	24*	0	0	9	4*	3	8	59.6	.83
24	0	0	2	22*	10	3	3	8*	65.1	.58
25	23*	1	0	0	7*	8	5	4	51.8	.67
26	21*	0	0	3	8*	4	4	8	52.8	.54
27	0	1	1	22*	8	7	4	5*	68.2	.71
28	0	16*	1	7	3	8*	8	5	50.0	.33
29	0	5	0	19*	5	12	5	2*	47.2	.71
30	0	22*	1	1	3	11*	7	3	72.0	.46
31	0	2	21*	1	10	2	6*	6	60.0	.63
32	19*	3	1	1	5*	5	4	10	57.5	.58
33	23*	0	0	1	7*	8	2	7	66.3	.67
34	0	22*	1	1	2	14*	5	3	80.9	.33
35	1	0	0	23*	2	8	2	12*	80.0	.46
36	0	1	23*	1	1	4	18*	1	85.6	.21
37	2	21*	1	0	7	10*	2	5	72.7	.46
38	0	0	24*	0	4	1	17*	2	88.6	.29
39	0	22*	1	1	3	15*	3	3	83.0	.29
40	1	20*	2	1	6	13*	2	3	67.5	.29
41	6*	0	1	17	8*	3	6	7	30.2	.42
42	17*	1	4	2	13*	4	3	4	65.9	.17
43	0	0	0	24*	10	0	2	12*	77.7	.50
44	2	20*	0	2	0	17*	3	4	75.3	.13
45	0	1	4	19*	2	4	15	3*	48.2	.67
46	6	8*	0	10	5	7*	5	7	25.6	.04
47	22*	0	2	0	10*	2	5	7	70.2	.50
48	4	4	14*	2	11	6	4*	3	37.8	.42

* Indicates correct response

APPENDIX B

4. Letter to Teachers and Principals Regarding Interpretation of Scores -- Form A

Grade 4
Grade 5
Grade 6

UNIVERSITY OF ILLINOIS COLLEGE OF EDUCATION

DEPARTMENT OF ELEMENTARY EDUCATION
306 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-2560

November 18, 1969

Mrs. Wright
Summerdale Elementary School
3320 Glenwood Avenue
Rockford, Illinois 61103

Dear Mrs. Wright:

About a week ago you were kind enough to lend us your class for about an hour to try out the first printed version of a new diagnostic test in five of the basic study skills. During this past week we have been analyzing these data in various ways to try to find out what they mean and to improve the test. A few of the 48 items in the test need reworking, but most of them seem to be working well.

With only 96 fourth-grade students and with the test not fully developed, the following table by which scores may be interpreted is only tentative, but it may help you to see how your youngsters would stack up as compared with a fairly normal group of fourth-grade students.

	Library Skills	Dictionary Skills	Reference Skills	Graphs and Tables	Map Reading Skills
Disabled	0	0	0	0	0
Retarded	1 - 3	1 - 2	1	1 - 3	1 - 2
Average	4	3 - 4	2 - 4	4 - 6	3 - 4
Superior	5 - 6	5	5	7 - 8	5 - 6
Very Superior	7 - 10	6 - 8	6 - 10	9 - 10	7 - 10
Unfinished					

Using this table, each child's ability in each of the five skills is recorded on the enclosed sheet. It was sometimes difficult to read the children's writing, so please pardon errors in their names.

Thank you again for helping with this test. We hope to polish it further and give it again early in 1970.

Sincerely,

J. Harlan Shores
Professor of Elementary Education

cc: Mrs. Helen Nelson
Miss Blanche Martin

UNIVERSITY OF ILLINOIS COLLEGE OF EDUCATION

DEPARTMENT OF ELEMENTARY EDUCATION
306 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-2560

October 29, 1969

Mrs. Mills
Summerdale Elementary School
3329 Glenwood Avenue
Rockford, Illinois 61103

Dear Mrs. Mills:

About a month ago you were kind enough to lend us your class for about an hour to try out the first printed version of a new diagnostic test in five of the basic study skills. During this past month we have been analyzing these data in various ways to try to find out what they mean and to improve the test. A few of the 48 items in the test need reworking, but most of them seem to be working well.

With only 205 fifth-grade students and with the test not fully developed, the following table by which scores may be interpreted is only tentative, but it may help you to see how your youngsters would stack up as compared with a fairly normal group of fifth-grade students.

	Library Skills	Dictionary Skills	Reference Skills	Graphs and Tables	Map Reading Skills
Disabled	1 - 2	1 - 2	1 - 2	1 - 3	1 - 2
Retarded	3 - 4	3	3 - 4	4 - 5	3 - 4
Average	5 - 6	4 - 5	5 - 6	6 - 7	5 - 6
Superior	7 - 8	6	7 - 8	8	7 - 8
Gifted	9 - 10	7 - 8	9 - 10	9 - 10	9 - 10
Unfinished					

Using this table, each child's ability in each of the five skills is recorded on the enclosed sheet. It was sometimes difficult to read the children's writing, so please pardon errors in their names.

Thank you again for helping with this test. We hope to polish it further and give it again early in 1970.

Sincerely,

J. Harlan Shores
Professor of Elementary Education

cc: Mrs. Helen Nelson
Miss Blanche Martin

UNIVERSITY OF ILLINOIS COLLEGE OF EDUCATION

DEPARTMENT OF ELEMENTARY EDUCATION
306 EDUCATION BUILDING
URBANA, ILLINOIS 61801
AREA CODE 217 333-2560

November 18, 1969

Mr. Johnson
Summerdale Elementary School
3320 Glenwood Avenue
Rockford, Illinois 61103

Dear Mr. Johnson:

About a week ago you were kind enough to lend us your class for about an hour to try out the first printed version of a new diagnostic test in five of the basic study skills. During this past week we have been analyzing these data in various ways to try to find out what they mean and to improve the test. A few of the 48 items in the test need reworking, but most of them seem to be working well.

With only 90 sixth-grade students and with the test not fully developed, the following table by which scores may be interpreted is only tentative, but it may help you to see how your youngsters would stack up as compared with a fairly normal group of sixth-grade youngsters.

	Library Skills	Dictionary Skills	Reference Skills	Graphs and Tables	Map Reading Skills
Disabled	0 - 3	0 - 2	0 - 3	0 - 4	0 - 3
Retarded	4	3 - 4	4 - 5	5 - 7	4 - 5
Average	5 - 6	5 - 6	6 - 7	8	6
Superior	7 - 8	7	8	9	7 - 8
Very Superior	9 - 10	8	9 - 10	10	9 - 10
Unfinished					

Using this table, each child's ability in each of the five skills is recorded on the enclosed sheet. It was sometimes difficult to read the children's writing, so please pardon errors in their names.

Thank you again for helping with this test. We hope to polish it further and give it again early in 1970.

Sincerely,

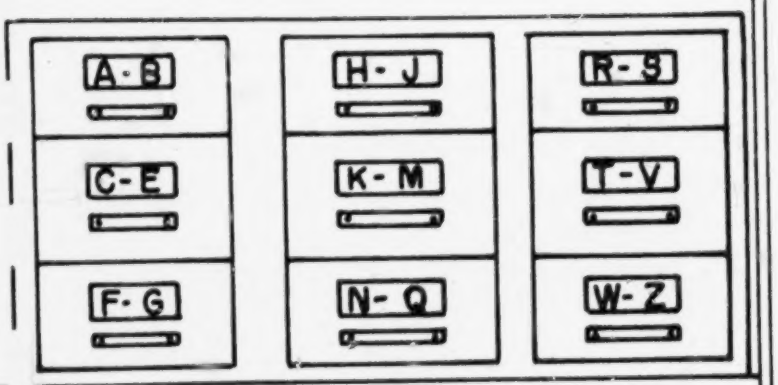
J. Harlan Shores
Professor of Elementary Education

cc: Mrs. Helen Nelson
Miss Blanche Martin

APPENDIX B

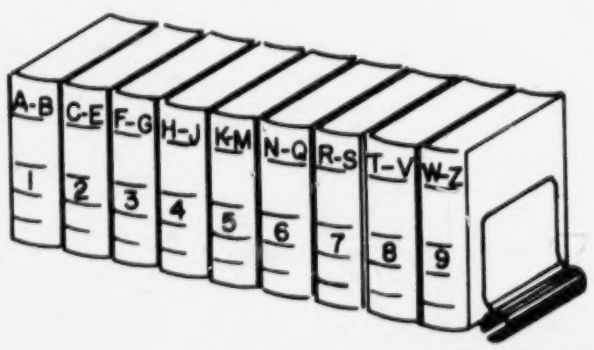
5. Diagnostic Test, Form 1

LIBRARY SKILLS



DICTIONARY SKILLS

REFERENCE SKILLS



READING GRAPHS AND TABLES

MAP READING SKILLS

RESEARCH STUDY SKILLS TEST

J. HARLAN SHORES

MARY C. NEWLAND

Form 1

INSTRUCTIONS TO STUDENTS

This is a test of research study skills. These are the skills needed to use the library, use a dictionary, look up topics in reference books, and read graphs, tables and maps.

This test booklet will be used by many different children. MAKE NO MARKS ON ANY PAGE OF THIS TEST BOOKLET. You have been given an answer sheet. You will mark your answers to the questions on the answer sheet.

Several answers are given for most questions but only one answer is the best one. You are to choose the one best answer. To help you understand how to mark your answer sheet, a sample question is given here.

Sample Question

Which of these words comes first in a dictionary?

A. pet
B. pack
C. pretty
D. pond

All of these words begin with p, so you would go on to the next letter. Since a comes before e, r, or o, pack is the best answer. This is choice B. On your answer sheet you would make a black mark under choice B.

Be sure you **MAKE YOUR MARKS DARK ENOUGH** that they can be seen easily. If you change your mind, erase your first answer completely so there will be only one mark in each row. Keep your place on the answer sheet—be sure your mark is placed in the row numbered the same as the question in the test booklet.

THERE ARE SEPARATE DIRECTIONS BEFORE EACH SECTION of the test. Be sure you read these directions carefully. Try to answer every question, but do not spend too much time on any one question. When you finish one part, go right on to the next. You will have 45 minutes for this test.

DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.

TEST A-1: LIBRARY SKILLS

Directions: This is a test of how to use the library. Four answers are given for each question, but only one of these answers is the best one. You are to choose the one answer that you think is better than the others. Then make a mark under that letter on your answer sheet.

1. What purpose does the card catalog serve?

   A. To list all books that have been printed.
   B. To show that library cards are needed.
   C. To show which books have been taken out of the library.
   D. To list the authors, titles and subjects of books in the library.

2. Sinclair Lewis was an American author who wrote many books. If you had just read his book *Main Street*, and wanted more of his books, which library card catalog drawer would you use?

   A. The A drawer.
   B. The L drawer.
   C. The S drawer.
   D. The M drawer.

3. Where would you look to find the most recent information on the population of California?

   A. an encyclopedia
   B. *The World Almanac*
   C. a dictionary
   D. a geography book

4. The best place to look to find the most complete maps of India would be

   A. an encyclopedia
   B. *The World Almanac*
   C. an atlas
   D. a geography book

5. In placing books of fiction on a shelf in a library, how can you tell which book should come first, second, third, etc. on the shelf?

   A. Date book was published.
   B. Author's name.
   C. Subject of book.
   D. Catalog number.

6. In placing books of non-fiction on a shelf in a library, what do you consider first to decide where on the shelf the book should be placed?

   A. Subject of book.
   B. Date book was published.
   C. Author's name.
   D. How often the book is used.

7. If you wanted to find out whether a book had any information on Abraham Lincoln, where in that book would you look to find out?

   A. Index
   B. Table of Contents
   C. Appendix
   D. Glossary

8. If you didn't understand the meaning of a hard word in the book you were reading, where in that book would you look to find the meaning?

   A. Appendix
   B. Bibliography
   C. Glossary
   D. Index

The class numbers marked on a book are taken from the Dewey Decimal System. Listed below are the numbers and topics used in this system. For questions 9 and 10, use these Dewey numbers to decide where to find the most information.

The Dewey Decimal System

000 - 099	General Works
100 - 199	Philosophy
200 - 299	Religion
300 - 399	Social Sciences
400 - 499	Languages
500 - 599	Pure Science
600 - 699	Applied Science
700 - 799	Arts and Recreation
800 - 899	Literature
900 - 999	History

9. Where would you look in the library to find an encyclopedia?

   A. 400 - 499
   B. 600 - 699
   C. 000 - 099
   D. 500 - 599

10. Where would you find out about different kinds of people and where they are living now?

    A. 500 - 599
    B. 300 - 399
    C. 400 - 499
    D. 000 - 099

GO ON TO PAGE 2

TEST B–1: DICTIONARY SKILLS

Directions: Decide which the best answer. On the answer sheet, make a dark mark under that letter.

11. Which of these words would come first in a dictionary?

    A. rigid
    B. right
    C. rigger
    D. rigor

12. Listed below are guide words found on four pages of a dictionary. On which page would you find the word solid?

    A. solution - solvent
    B. solicitor - solo
    C. solar - solicit
    D. Solomon - solvent

13. If you didn't know how to spell the word meaning more than one "calf", how should you use the dictionary to find out how to spell this word?

    A. Guess how the word might be spelled and look up that word.
    B. Look up the word "calf".
    C. Look through all words beginning with the letter "c".
    D. Look up a word meaning something like "calf" such as "cow" or "cattle".

Directions: On the opposite page are a sample dictionary and a pronunciation guide. The answers to questions 14 through 18 may be found by using these materials.

14. In the word cursory, the u is said like the u in

    A. cup
    B. fur
    C. cue
    D. duty

15. The word marionette has four syllables. Which syllable should have the greatest force when it is spoken?

    A. mar
    B. i
    C. o
    D. nette

16. Which sentence below tells about a nonchalant person?

    A. She screamed when she saw the monster.
    B. He was excited when he won the prize.
    C. He smoked his pipe slowly as the big snake came nearer.
    D. She cried through the entire picture.

17. If you looked up the word "smear" in the dictionary and found a small "n" after it, the best choice of meaning would be

    A. a smudge. "Chocolate made a *smear* on her dress."
    B. to spread with oil, paint, etc. "Be careful not to *smear* the oil on the fender of the car.
    C. to make nasty remarks. "The magazine article *smeared* him."
    D. to rub over something to make a stain. "If it is not dry, it will *smear* when you touch it."

18. If you come to the end of a line you are writing and find yourself in the middle of the word carburetor, it would be correct to divide it after the letters

    A. ca
    B. carbu
    C. carb
    D. carbur

GO ON TO PAGE 4

TEST B–1: DICTIONARY SKILLS

SAMPLE DICTIONARY

car·bu·re·tor *(kär′bə rā tər)*, n. the part of a motor or engine that mixes air with gasoline to make an explosive gas.

cur·so·ry *(kûr′sər i)*, adj. done quickly and without much care [She gave the mending a *cursory* glance.] --cur′·so·ri·ly, adv.

mar·i·o·nette *(mar i ə net′)* n. a doll or puppet that is moved by strings, wires or the hands and may be used for shows on a small stage.

non·cha·lant *(nän′shə lənt)* adj. showing little care or concern; easy going; casual [He is *nonchalant* about his appearance.] --non′·cha·lance, n. non′·cha·lant·ly, adv.

non·en·ti·ty *(nän en′tə ti)* n. a person or thing which has no importance. --non·en′·ti·ties, pl.

phleg·mat·ic *(fleg mat′ik)*, adj. not easily excited or made active; slow or sluggish; cool and calm. [The *phlegmatic* man showed no concern about the accident.]

pre·serve *(pri zûrv′)*, v. 1. to save from harm or ruin; protect [to *preserve* our wild life.] 2. to keep from decaying or spoiling. 3. to keep food for later use by canning or pickling. 4. to keep up; maintain. [He tried to *preserve* his calmness.] --n. 1. fruit cooked with sugar and canned to make *preserves*. 2. a place where animals or trees are protected or controlled. [a wildlife *preserve*.] --pre·served′, p.t. & p.p.; pre·serv·′ing, pr. p.

smear *(smir)*, v. 1. to cover all or part with something dirty, oily, sticky, etc. [He *smeared* grease on the slide.] 2. to rub or spread. [*Smear* some butter on the bread.] 3. to make an unwanted smudge [He *smeared* his picture with his arm.] 4. to soil as one's reputation; to slander; to sully. [The magazine *smeared* his chances of getting elected.] --n. a stain, spot or mark perhaps made by smearing. 2. the act of smearing or slander.

sur·geon *(sûr′jən)*, n. a medical doctor who practices surgery.

tur key *(tûr′ki)* n. 1. a large bird native to North America which is prized as food. 2. the meat of the bird [Please pass the *turkey*.]

vol·un·teer *(väl ən tir′)*, n. a person who offers himself for service or duty of his own free will. [He is a *volunteer* in the army.] --adj. made up of volunteers or done by volunteers [a *volunteer* group; *volunteer* blood donors.] v. 1. to offer or give by one's own choice [He *volunteered* his work. She volunteered to make the trip.] 2. to enter into a service, such as the armed services, by one's own free choice. [He *volunteered* for active duty as a Marine.]

PRONUNCIATION GUIDE

fat āpe cär ten ēven hit bīte gō

hôrn tōol book up fûr get joy yet

chin she thin then zh = s in pleasure

ə = a in ago

e in agent

i in sanity

o in confess

u in focus

Table of Contents

Directions: On the right side of this page is a sample Table of Contents. Use this Table of Contents to answer questions 19 through 22.

19. On what page would you look to find something about the Watusi people who live mainly in east central Africa?

A. Page 16
B. Page 46
C. Page 17
D. Page 55

20. Where might you learn how to be a good citizen?

A. Page 65
B. Page 61
C. Page 35
D. Page 57

21. Where would you look for information about travel, airplanes, the automobile, T.V., and radio?

A. Page 62
B. Page 61
C. Page 63
D. Page 23

22. On what page would you look to find something about how people try to get along with other people in the world?

A. Page 30
B. Page 35
C. Page 23
D. Page 57

GO ON TO PAGE 5

TABLE OF CONTENTS

A Guide to the Social Studies in the Elementary Grades

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- Central States 17
- Rocky Mountain States 18
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DISCOVERING AND EXPLORING THE NEW WORLD
- Discoverers and Explorers of the New World 23

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HOW OUR GOVERNMENT WAS ESTABLISHED
- Formation of the New Government 32
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THE NORTH AND SOUTH DIVIDED
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HOW PEOPLE HAVE WORKED FOR A BETTER WORLD
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HOW AMERICANS DEVELOPED A GREAT NATION
- America's Industrial Growth 61
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Use of Index

Directions: On the right side of this page is a sample index. Use this sample index to answer questions 23, 24, and 25.

23. If you were looking at the map of California, what volume and page would you be using?

A. 7/272
B. 10/168
C. 14/446
D. 10/179-182

24. If you wanted more information about the cows in the dairy industry, where would you look?

A. 3/100-202
B. 9/379-383
C. 12/412-413
D. 12/421-423

25. Where would you look to find out about farming in Canada?

A. 1/42-43
B. 12/410-422
C. 3/185-211
D. 16/203-206

Key Words

Directions: When using an encyclopedia, we look up the key word--the word which is most likely to tell about what we want. For each of the questions below, select the one best key word and make a mark under that letter on your answer sheet.

26. If you wanted to find out how to play Rugby, a game like football or soccer which is played in England, where would you look?

A. Rugby
B. Football
C. Soccer
D. Games

27. If you were looking in an encyclopedia to find pictures of a perch, shark, and tuna, in which volume might you find all of them?

A. The "P" volume
B. The "S" volume
C. The "T" volume
D. The "F" volume

28. If you wanted to know whether a Brown Swiss cow gives more milk than a Jersey or Holstein cow, what would you look up?

A. Jersey
B. Cattle
C. Brown Swiss
D. Holstein

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INDEX

Abolitionist, 17/410; Brown, John 17/403; Garrison, William L. 4/292; See also Slavery; Civil War.

Acting, kinds of acting 14/251-252; qualifications 14/254; See also Actors and Actresses.

Actinium, 3/282.

Actors and actresses; Allen, Fred 15/462; Chaplin, Charles 14/448; Hayes, Helen 14/243; Kaye, Danny 15/463; Montgomery, Robert 14/248; Valentino, Rudolph 14/465; See also Acting Career.

Agriculture, 3/185-211; 16/127-148; Canada 1/42-43; cereal grains 3/190-194; Middle Ages 12/100-1-2; pests 16/203-206; U.S. Land use 12/399-402.

California, 10/179-182; flag (illus.) 7/272; general information (table) 10/190; industry 5/76-87; map 10/168; population 10/167; See also Hollywood; Los Angeles; San Francisco.

Cattle, 12/410-422; beef cattle 9/379-383; breeding 9/396-400; dairy cows 12/421-423; sacred in India 5/176; stomach 8/257; wild cattle 12/412-413.

Civil War, 17/221-225; battles and campaigns 17/228-234; Confederate flag (illus.) 18/10; secession 17/224-225; See also Reconstruction period.

Cow, See Cattle; Dairying.

Crowfoot, See Buttercup

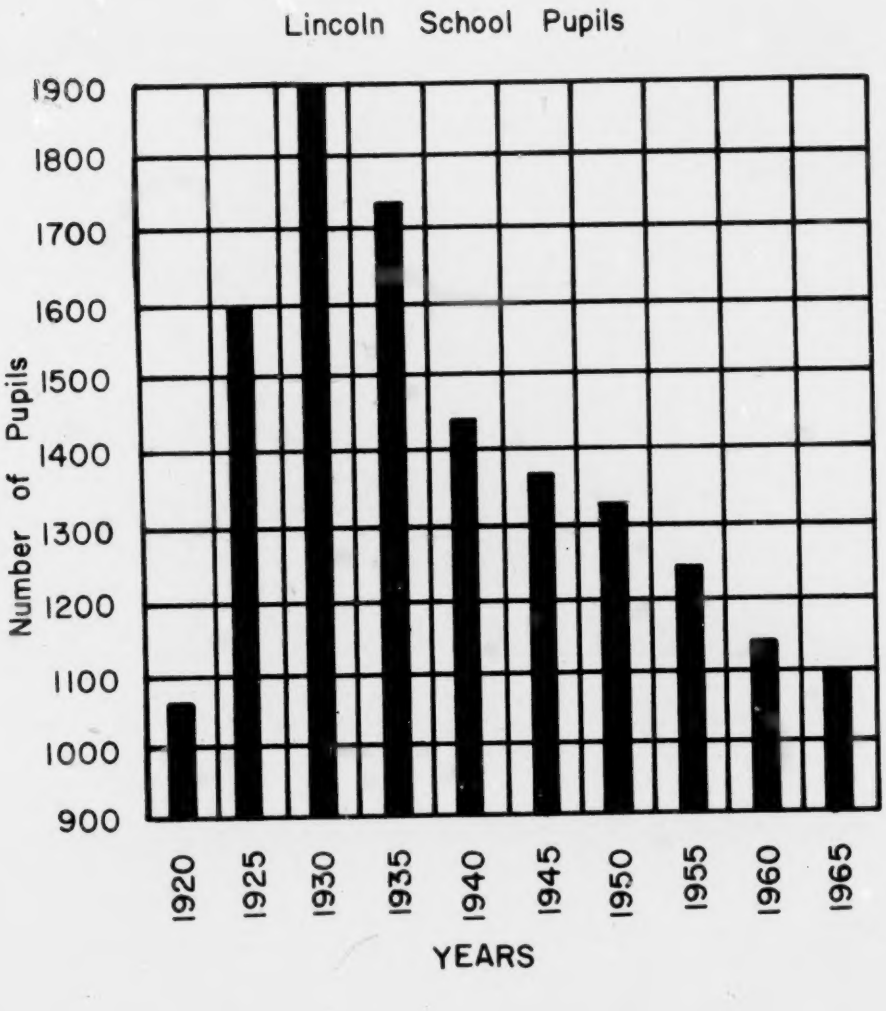
Dairying, careers in 3/100-202; cooperatives in Denmark 14/274; cooperatives in U.S. 16/398; sanitation 9/381; See also Cattle, dairy.

Factory; See Assembly line; Automation; Industrial Revolution; Manufacturing; Mass production.

Farming, See Agriculture; Gardening, Gardens.

Fruit, 5/72-91; annual amount used (table) 8/319-320; California production 10/181-182; citrus fruits 5/84-87; Florida's fruits 9/154; Middle Ages 1/257; See also Seed.

Hollywood, Cal; growth 14/441; map 14/446.



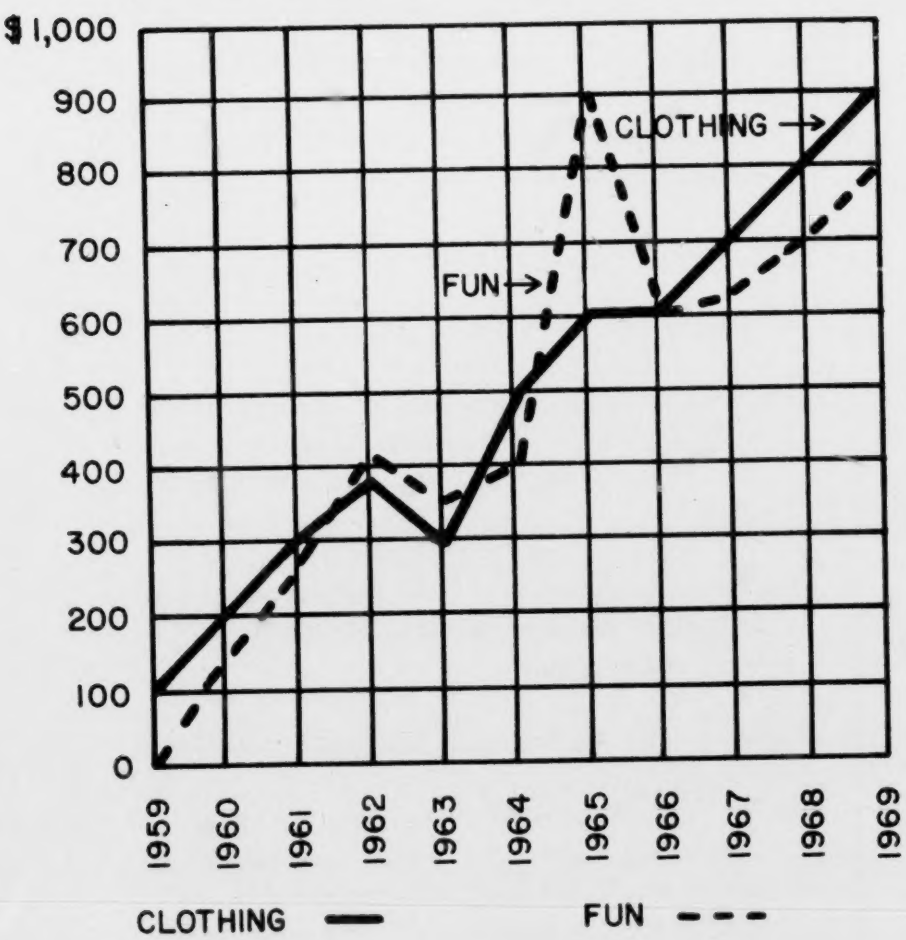
Use the graph to the left to answer questions 29 and 30.

29. Since 1930, the number of pupils in Lincoln School has been

A. staying the same.
B. growing larger.
C. going up one five year period and down the next.
D. growing smaller.

30. In what years was the number of pupils the highest and lowest?

A. Highest in 1925 and lowest in 1940.
B. Highest in 1930 and lowest in 1920.
C. Highest in 1930 and lowest in 1965.
D. Highest in 1935 and lowest in 1920.



Use the graph to the left to answer questions 31 and 32.

31. During which year did this family spend the same amount for clothing as they spent for fun?

A. 1963
B. 1962
C. 1966
D. 1968

32. One year the family decided to try to save money. During this year, they spent less than they had spent the year before for both fun and clothing. Which year was this?

A. 1963
B. 1965
C. 1961
D. 1967

GO ON TO PAGE 7

Use the graph to the right to answer questions 33 and 34.

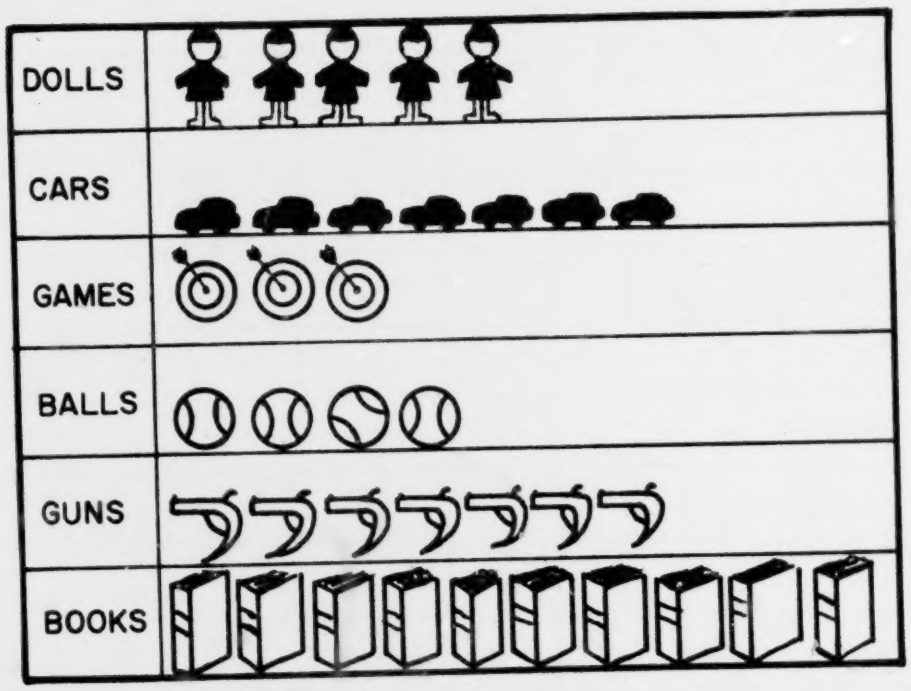
33. What two items added together sold the same number as did books?

A. Guns and games
B. Dolls and cars
C. Guns and balls
D. Cars and guns

34. What item sold twice as well as dolls?

A. Guns
B. Books
C. Cars
D. Balls

MR. JONES' SALES RECORD FOR ONE DAY



Use the graph to the right to answer questions 35 and 36.

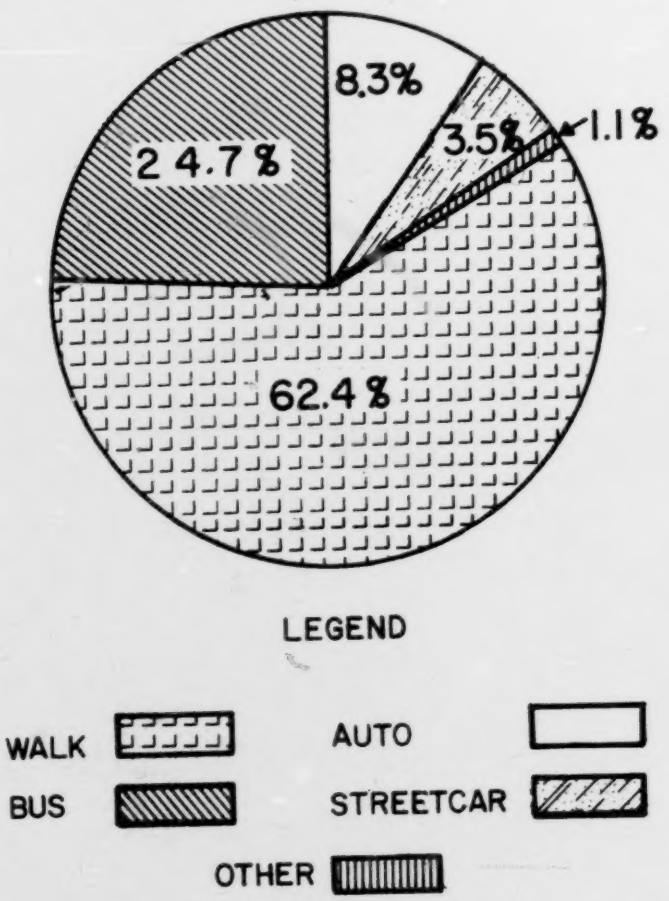
35. More than ½ of the children went to school by

A. Auto
B. Bus
C. Streetcar
D. Walking

36. The second most popular way of going to school is by

A. Auto
B. Walking
C. Bus
D. Streetcar

WAYS OF GOING TO SCHOOL IN FAIRVIEW



GO ON TO PAGE 8

SPELLING SCORES -- NUMBER RIGHT
10 WORDS PER DAY

NAME	MON	TUES	WED	THURS	FRI	TOTAL
SUE	6	6	8	9	9	38
MARY	6	5	7	8	8	34
BILL	9	9	9	10	10	47
SALLY	7	6	6	6	5	30
JOE	2	3	3	4	6	18
CLARA	7	5	9	8	8	37
LEE	10	10	9	10	10	49
BOB	10	10	10	10	10	50
Daily Total	57	54	61	65	66	303

Use the table to the left to answer questions 37 and 38.

37. The lowest total scores were made by the pupils on

    A. Monday
    B. Tuesday
    C. Wednesday
    D. Thursday

38. The pupil who made the lowest score for all the tests together was

    A. Clara
    B. Sally
    C. Joe
    D. Mary

GO ON TO PAGE 9

TEST E–1: MAP READING SKILLS

Directions: The two maps to the right show a make-believe state. The map at the top is a physical-political map showing the oceans, rivers, mountains, cities, railroads and highways. The map below this one shows the livestock and grain products of this same state. Use these two maps to answer questions 39-42.

39. To travel from Harvey to Philo by car, you would have to go first to

A. Jaysville
B. Russell
C. Dillon
D. Leesburg

40. Which city is connected by railroad to both a lake and the ocean?

A. Shores
B. Dillon
C. Kirby
D. Jaysville

41. Which is likely to be the largest ocean port for shipping grain crops overseas?

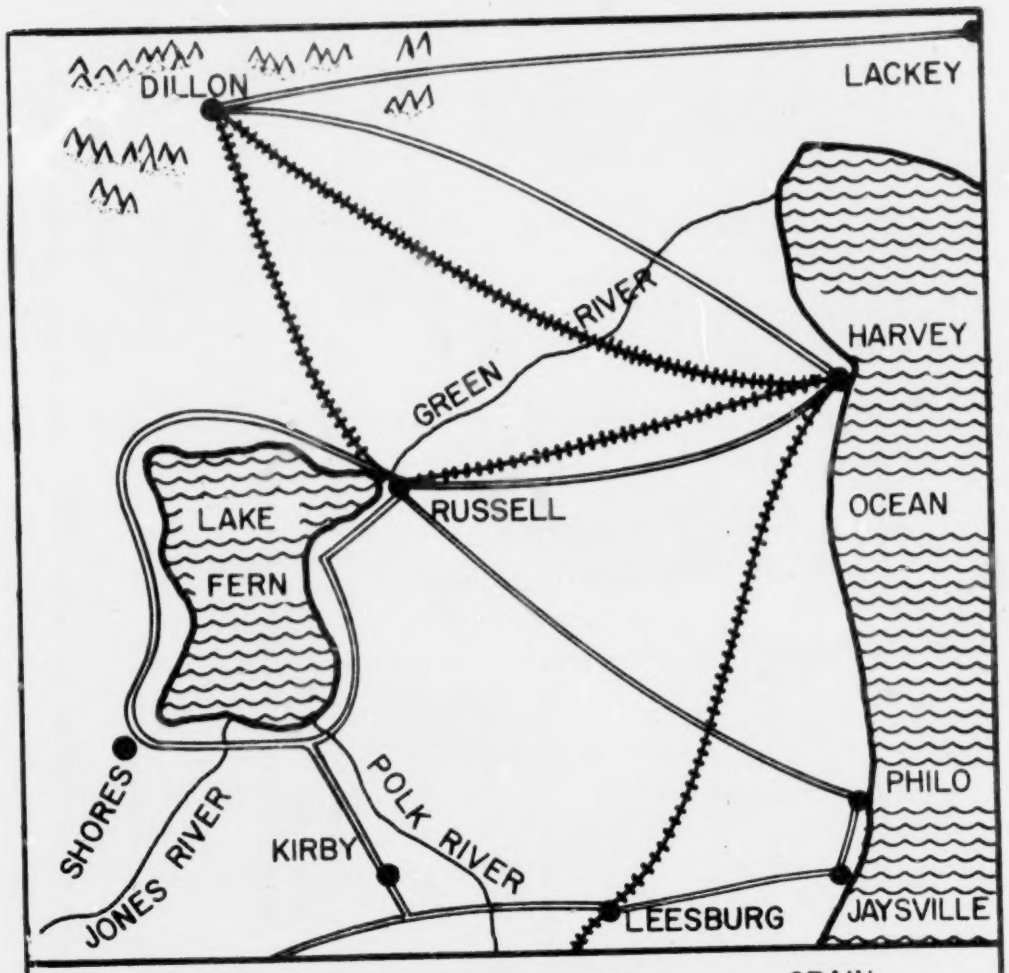
A. Harvey
B. Philo
C. Jaysville
D. Russell

42. In this area cattle are most often found with

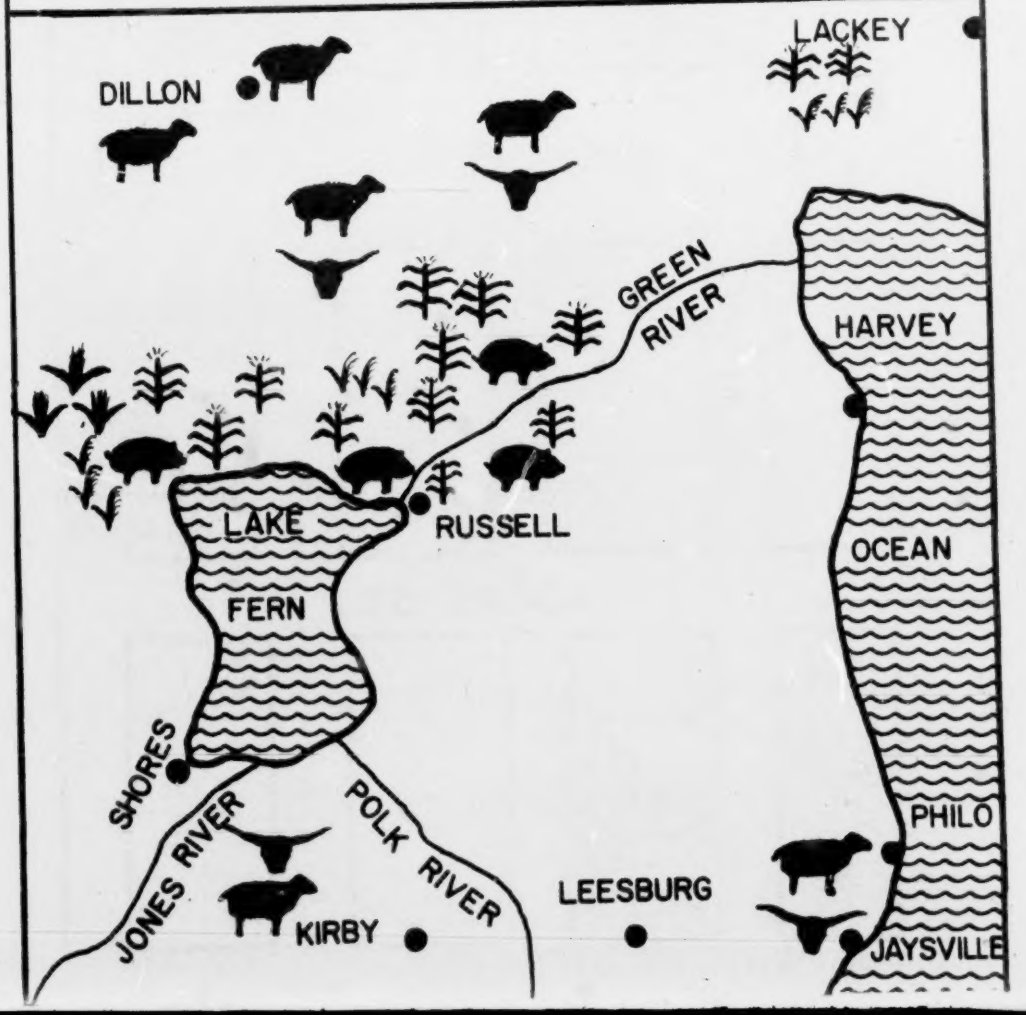
A. Sheep
B. Wheat
C. Corn
D. Oats

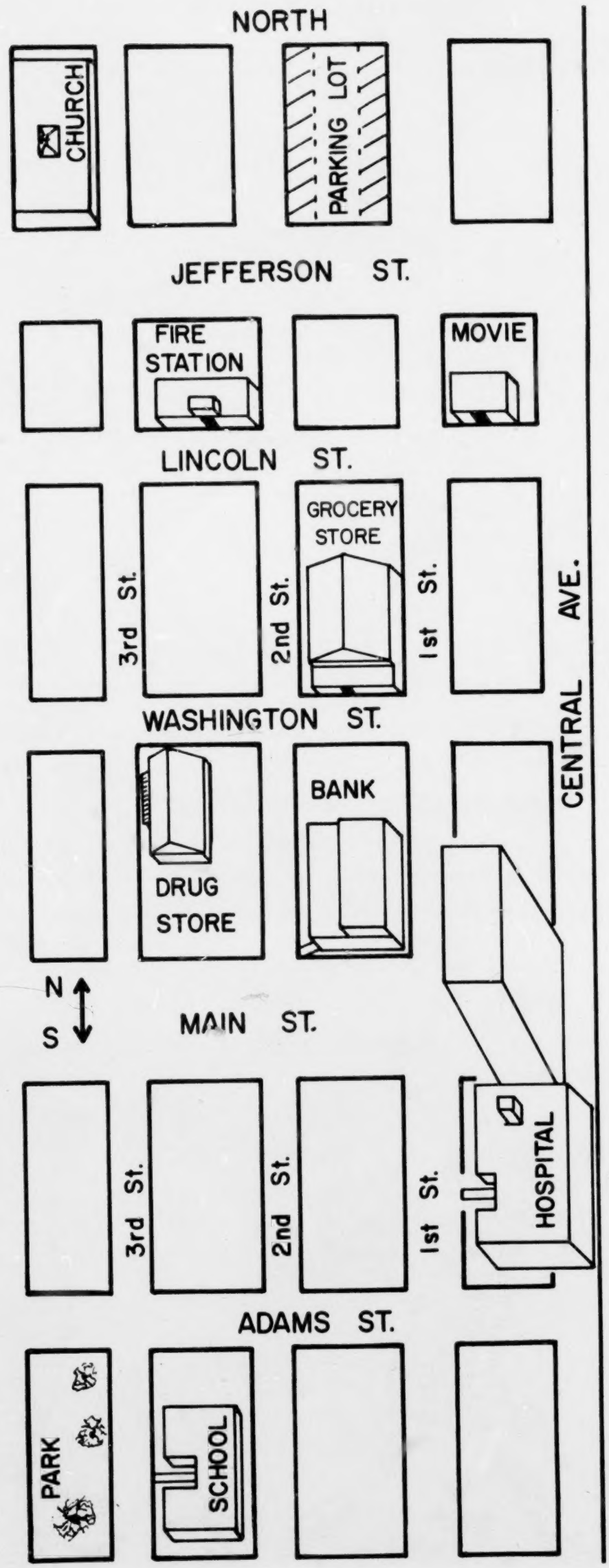
GO ON TO PAGE 10

PHYSICAL POLITICAL MAP



PRODUCT MAP





The picture map on the left shows part of a town. The streets and important buildings are named. Use this map to answer questions 43-44.

43. What building is on the corner of 3rd and Washington Streets?

A. Grocery Store
B. School
C. Bank
D. Drug Store

44. Sally lives on the corner of Washington and 1st Streets. John lives on the corner of Washington and 3rd Streets. Which one lives closer to school?

A. Sally
B. John
C. Neither--same distance
D. One cannot tell from the map

GO ON TO PAGE 11

Directions: There are three maps to the right on this page. All three show the same place. The numbers 1, 2, 3, 4 and 5 show the different states. The top map is a population map (number of people living in the areas); the middle map is an elevation map (high and low places in the areas); and the bottom map is a rainfall map (amount of rain in the areas). Use these maps to answer questions 45-48 below.

45. The largest city is most likely in

A. the mountains
B. State 2
C. State 1
D. State 5

46. In which state are there at least 40 people per square mile in all parts of the state?

A. State 4
B. State 5
C. State 1
D. State 3

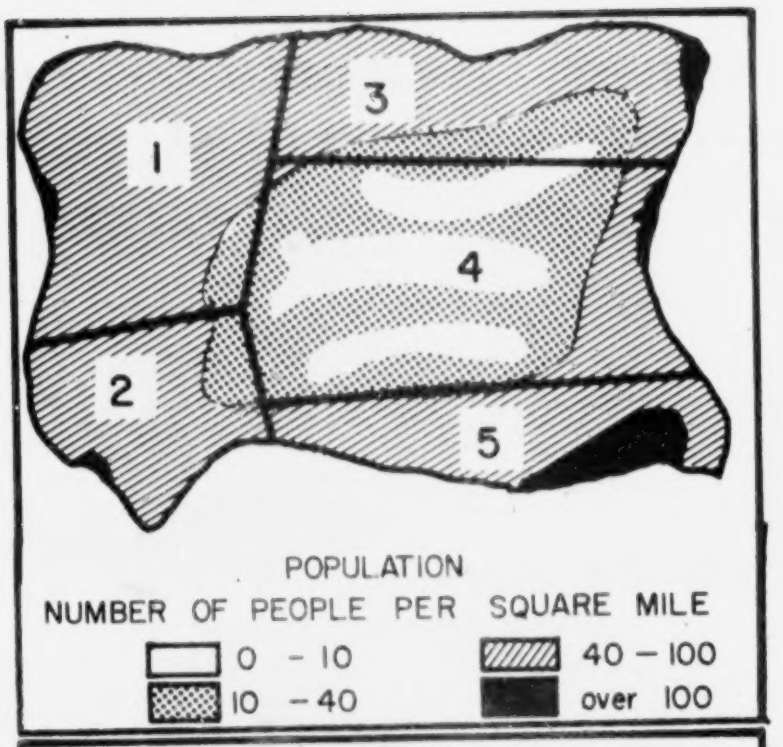
47. The city with the least rainfall is in

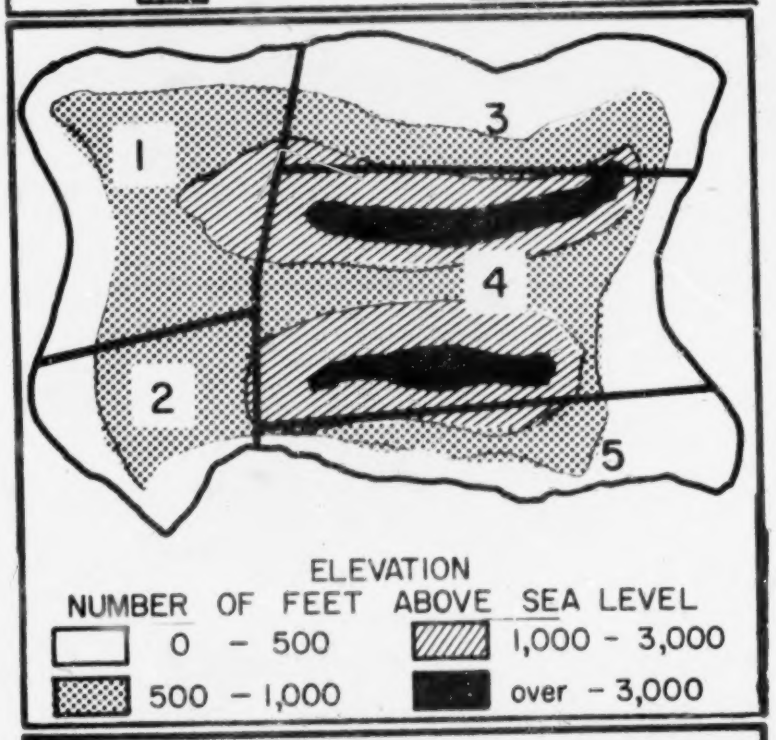
A. State 1
B. State 5
C. State 3
D. State 4

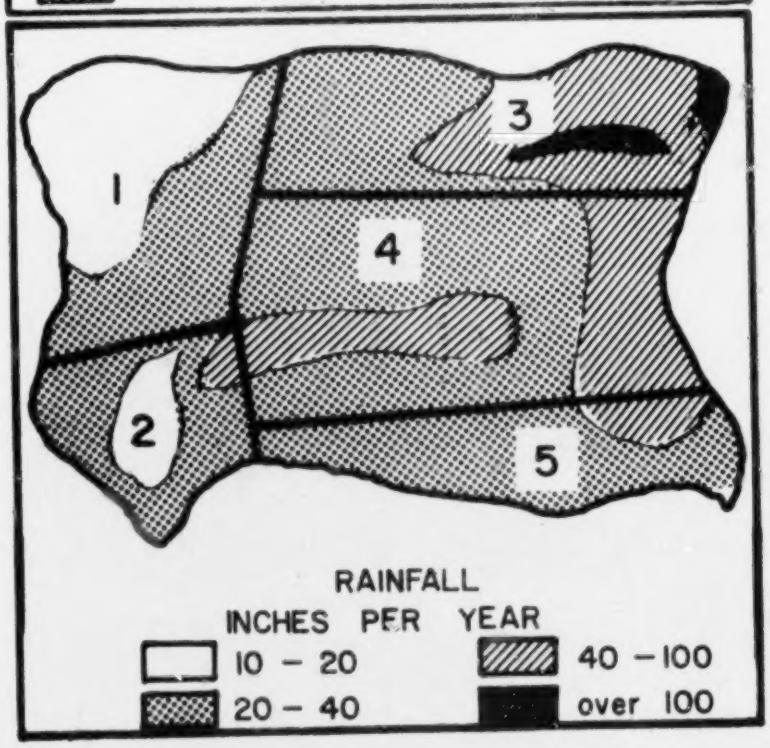
48. The place where states 3 and 4 join state 1

A. has more rainfall than any other place on the map.
B. has a population of over 100 people per square mile.
C. is over 1,000 feet above sea level.
D. has less than 20 inches of rainfall each year.

STOP HERE



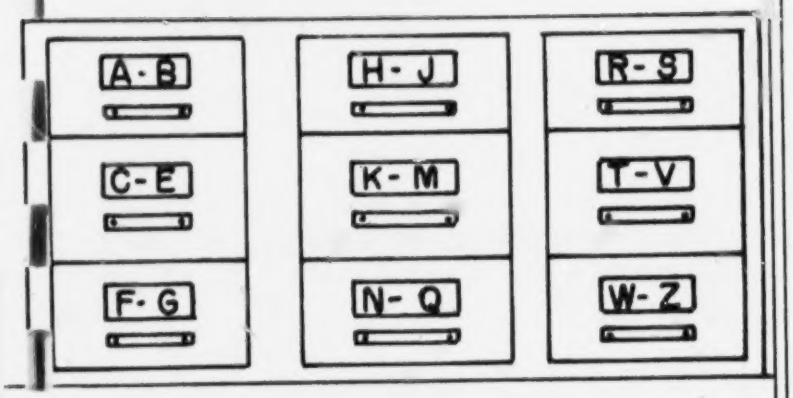




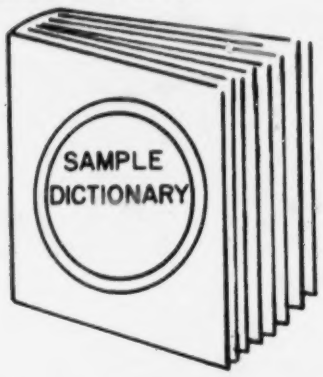
APPENDIX B

.6. Diagnostic Test, Form 2

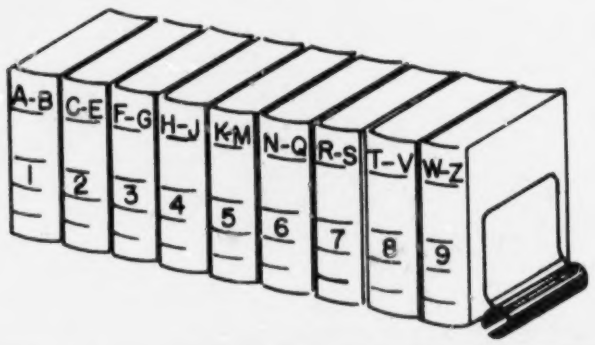
LIBRARY SKILLS



DICTIONARY SKILLS



REFERENCE SKILLS



READING GRAPHS AND TABLES

MAP READING SKILLS

RESEARCH STUDY SKILLS TEST

J. HARLAN SHORES

MARY C. NEWLAND

Form 2

INSTRUCTIONS TO STUDENTS

This is a test of research study skills. These are the skills needed to use the library, use a dictionary, look up topics in reference books, and read graphs, tables and maps.

This test booklet will be used by many different children. MAKE NO MARKS ON ANY PAGE OF THIS TEST BOOKLET. You have been given an answer sheet. You will mark your answers to the questions on the answer sheet.

Several answers are given for most questions but only one answer is the best one. You are to choose the one best answer. To help you understand how to mark your answer sheet, a sample question is given here.

Sample Question

Which of these words comes first in a dictionary?

A. pet
B. pack
C. pretty
D. pond

All of these words begin with p, so you would go on to the next letter. Since a comes before e, i, or o, pack is the best answer. This is choice B. On your answer sheet you would make a black mark under choice B.

Be sure you **MAKE YOUR MARKS DARK ENOUGH** that they can be seen easily. If you change your mind, erase your first answer completely so there will be only one mark in each row. Keep your place on the answer sheet–be sure your mark is placed in the row numbered the same as the question in the test booklet.

THERE ARE SEPARATE DIRECTIONS BEFORE EACH SECTION of the test. Be sure you read these directions carefully. Try to answer every question, but do not spend too much time on any one question. When you finish one part, go right on to the next. You will have 45 minutes for this test.

DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.

TEST A–2: LIBRARY SKILLS

Directions: This is a test of how to use the library. Four answers are given for each question, but only one of these answers is the best one. You are to choose the one answer that you think is better than the others. Then make a mark under that letter on your answer sheet.

1. In the library the best place to look for the name of the author of the book *Pecos Bill* would be

   A. in an encyclopedia.
   B. on the library shelves.
   C. in the card catalog.
   D. in the *Guide to Periodical Literature*.

2. Jules Verne was a French author who wrote many books. If you had just read his book *Twenty Thousand Leagues Under the Sea*, and wanted more of his books, which library card catalog drawer would you use?

   A. The F drawer.
   B. The V drawer.
   C. The J drawer.
   D. The T drawer.

3. Where would be the best place to look for last season's batting averages of major league baseball players?

   A. A newspaper.
   B. An encyclopedia.
   C. *Sports Illustrated*.
   D. *The World Almanac*.

4. The best place to look to find the most complete maps of Hawaii would be

   A. an encyclopedia.
   B. *The World Almanac*.
   C. an atlas.
   D. a geography book.

5. Listed below are four books of fiction. Which of the four should be placed first on the library shelf?

   A. *Riders of the Purple Sky*, by Gray.
   B. *Oliver Twist*, by Dickens.
   C. *Little House in the Big Woods*, by Wilder.
   D. *The Sea Wolf*, by London.

6. Listed below are four books of non-fiction to be placed in order on a library shelf. Which should come first?

   A. *Language as Choice and Chance*, by Herdan, 400.
   B. *Weather Elements*, by Blair, 551.5.
   C. *The Arabs: Their History and Future*, by Berque, 915.3.
   D. *Crime and the Man*, by Hooton, 364.

7. If you wanted to find out whether a book had any information on John F. Kennedy, where in that book would you look to find out?

   A. Index
   B. Table of Contents
   C. Appendix
   D. Glossary

8. While you are reading you come across the word aborigines and don't know what it means. Where in that book might you find the meaning?

   A. Appendix
   B. Bibliography
   C. Glossary
   D. Index

Class numbers marked on a book are taken from the Dewey Decimal System. Listed below are the numbers and topics used in this System. For questions 9 and 10, use these Dewey numbers and topics to decide where to find the most information.

The Dewey Decimal System

000 - 099 General Works
100 - 199 Philosophy
200 - 299 Religion
300 - 399 Social Sciences
400 - 499 Languages
500 - 599 Pure Science
600 - 699 Applied Science
700 - 799 Arts and Recreation
800 - 899 Literature
900 - 999 History

9. Where would you look in the library to find *The World Almanac*?

   A. 400 - 499
   B. 600 - 699
   C. 000 - 099
   D. 500 - 599

10. Where would you find out about the eating habits of different people in the world?

    A. 500 - 599
    B. 300 - 399
    C. 400 - 499
    D. 000 - 099

GO ON TO PAGE 2

TEST B–2: DICTIONARY SKILLS

Directions: Decide which is the best answer. On the answer sheet, make a dark mark under that letter.

11. Which of these words would come first in a dictionary?

    A. finger
    B. find
    C. finch
    D. finite

12. Listed below are guide words found on four pages of a dictionary. On which page would you find the word calico?

    A. calamine - calculus
    B. calliope - calumet
    C. calendar - call
    D. calumny - calypso

13. If you didn't know how to spell the word meaning more than one "goose", how should you use the dictionary to find out how to spell this word?

    A. Guess how the word might be spelled and look up that word.
    B. Look up the word "goose".
    C. Look through all words beginning with the letter "g".
    D. Look up a word meaning something like "goose" such as "duck" or "swan".

Directions: On the opposite page are a sample dictionary and a pronunciation guide. The answers to questions 14 through 18 may be found by using these materials.

14. In the word turkey, the u is said like the u in

    A. cup
    B. fur
    C. cue
    D. focus

15. The word carburetor has four syllables. Which syllable should have the greatest force when it is spoken?

    A. bu
    B. tor
    C. re
    D. car

16. Which sentence tells about a phlegmatic person?

    A. She rolled on the floor in pain.
    B. He shouted for joy.
    C. He closed the gate slowly as the angry bull charged.
    D. She was so angry that she cried.

17. If you looked up the word "volunteer" in the dictionary and found a small "n" after it, the best choice of meaning would be

    A. a person who offers his services. "The soldier is a *volunteer*".
    B. to offer or give by one's own choice. "He *volunteered* to read the story".
    C. done by one who is not paid for the help he offers. "He is a *volunteer* fireman".
    D. to enter into service by one's own free choice. "The soldier *volunteered* as a scout".

18. If you come to the end of a line you are writing and find yourself in the middle of the word cursory, it would be correct to divide it after the letters

    A. cu
    B. curso
    C. curs
    D. cursor

GO ON TO PAGE 4

TEST B–1: DICTIONARY SKILLS

SAMPLE DICTIONARY

car·bu·re·tor *(kär´bə rā tər)*, n. the part of a motor or engine that mixes air with gasoline to make an explosive gas.

cur·so·ry *(kûr´sər i)*, adj. done quickly and without much care [She gave the mending a *cursory* glance.] --cur´·so·ri·ly, adv.

mar·i·o·nette *(mar i ə net´)* n. a doll or puppet that is moved by strings, wires or the hands and may be used for shows on a small stage.

non·cha·lant *(nän´ shə lənt)* adj. showing little care or concern; easy going; casual [He is *nonchalant* about his appearance.] --non´·cha·lance, n. non´·cha·lant·ly, adv.

non·en·ti·ty *(nän en´tə ti)* n. a person or thing which has no importance. --non·en´·ti·ties, pl.

phleg·mat·ic *(fleg mat´ik)*, adj. not easily excited or made active; slow or sluggish; cool and calm. [The *phlegmatic* man showed no concern about the accident.]

pre·serve *(pri zûrv´)*, v. 1. to save from harm or ruin; protect [to *preserve* our wild life.] 2. to keep from decaying or spoiling. 3. to keep food for later use by canning or pickling. 4. to keep up; maintain. [He tried to *preserve* his calmness.] --n. 1. fruit cooked with sugar and canned to make *preserves*. 2. a place where animals or trees are protected or controlled. [a wildlife *preserve*.] --pre·served´, p.t. & p.p.; pre·serv·´ing, pr. p.

smear *(smir)*, v. 1. to cover all or part with something dirty, oily, sticky, etc. [He *smeared* grease on the slide.] 2. to rub or spread. [*Smear* some butter on the bread.] 3. to make an unwanted smudge [He *smeared* his picture with his arm.] 4. to soil as one's reputation; to slander; to sully. [The magazine *smeared* his chances of getting elected.] --n. a stain, spot or mark perhaps made by smearing. 2. the act of smearing or slander.

sur·geon *(sûr´jən)*, n. a medical doctor who practices surgery.

tur key *(tûr´ki)* n. 1. a large bird native to North America which is prized as food. 2. the meat of the bird [Please pass the *turkey*.]

vol·un·teer *(väl ən tir´)*, n. a person who offers himself for service or duty of his own free will. [He is a *volunteer* in the army.] --adj. made up of volunteers or done by volunteers [a *volunteer* group; *volunteer* blood donors.] v. 1. to offer or give by one's own choice [He *volunteered* his work. She volunteered to make the trip.] 2. to enter into a service, such as the armed services, by one's own free choice. [He *volunteered* for active duty as a Marine.]

PRONUNCIATION GUIDE

fat ape car ten even hit bite go

hôrn tool book up fur get joy yet

chin she thin then zh = s in pleasure

ə = a in ago

e in agent

i in sanity

o in confess

u in focus

Table of Contents

Directions: On the right side of this page is a sample Table of Contents. Use this Table of Contents to answer questions 19 through 22.

19. On what page would you look to find something about the Gauchos who are cowboys in South America?

A. Page 16
B. Page 55
C. Page 19
D. Page 47

20. Where might you find information about past and present schools in America?

A. Page 65
B. Page 35
C. Page 16
D. Page 61

21. On what page would you look to find something about the Security Council of the United Nations?

A. Page 30
B. Page 35
C. Page 42
D. Page 57

22. Where might you find something about Thomas Jefferson?

A. Page 65
B. Page 23
C. Page 33
D. Page 62

GO ON TO PAGE 5

TABLE OF CONTENTS

A Guide to the Social Studies in the Elementary Grades

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- Central States 17
- Rocky Mountain States 18
- Pacific States 19
- Alaska and Hawaii 20

DISCOVERING AND EXPLORING THE NEW WORLD
- Discoverers and Explorers of the New World 23

HOW THE COLONIES WON THEIR INDEPENDENCE
- Causes of the Revolution 30

HOW OUR GOVERNMENT WAS ESTABLISHED
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- Famous Americans 33
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THE NORTH AND SOUTH DIVIDED
- The Civil War 42
- The Period after the Civil War 43

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HOW AMERICANS DEVELOPED A GREAT NATION
- America's Industrial Growth 61
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Use of Index

Directions: On the right side of this page is a sample index. Use this sample index to answer questions 23, 24, and 25.

23. If you were looking at a picture of the Confederate flag used during the Civil War, what volume and page would you be using?

A. 7/272
B. 18/10
C. 17/221-225
D. 17/228-234

24. If you wanted information about the stomach of a cow, where would you look?

A. 5/176
B. 12/410-422
C. 3/100-202
D. 8/257

25. Where would you look to find out about farming in the Middle Ages?

A. 12/100-1-2
B. 1/257
C. 3/185-211
D. 3/190-194

Key Words

Directions: When using an encyclopedia, we look up the key word--the word which is most likely to tell about what we want. For each of the questions below, select the one best key word and make a mark under that letter on your answer sheet.

26. If you wanted to find out about Curling, a game like bowling or tenpins which is played in Canada on an ice rink, where would you look?

A. Curling
B. Bowling
C. Tenpins
D. Games

27. If you were looking in an encyclopedia to find pictures of a robin, cardinal and sparrow, in which volume might you find all of them?

A. The "R" volume
B. The "C" volume
C. The "S" volume
D. The "B" volume

28. If you wanted to know whether a tiger looks more like a lion or a leopard, what would you look up?

A. Lion
B. Cat
C. Tiger
D. Leopard

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INDEX

Abolitionist, 17/410; Brown, John 17/403; Garrison, William L. 4/292; See also Slavery; Civil War.

Acting, kinds of acting 14/251-252; qualifications 14/254; See also Actors and Actresses.

Actinium, 3/282.

Actors and actresses; Allen, Fred 15/462; Chaplin, Charles 14/448; Hayes, Helen 14/243; Kaye, Danny 15/463; Montgomery, Robert 14/248; Valentino, Rudolph 14/465; See also Acting Career.

Agriculture, 3/185-211; 16/127-148; Canada 1/42-43; cereal grains 3/190-194; Middle Ages 12/100-1-2; pests 16/203-206; U.S. Land use 12/399-402.

California, 10/179-182; flag (illus.) 7/272; general information (table) 10/190; industry 5/76-87; map 10/168; population 10/167; See also Hollywood; Los Angeles; San Francisco.

Cattle, 12/410-422; beef cattle 9/379-383; breeding 9/396-400; dairy cows 12/421-423; sacred in India 5/176; stomach 8/257; wild cattle 12/412-413.

Civil War, 17/221-225; battles and campaigns 17/228-234; Confederate flag (illus.) 18/10; secession 17/224-225; See also Reconstruction period.

Cow, See Cattle; Dairying.

Crowfoot, See Buttercup

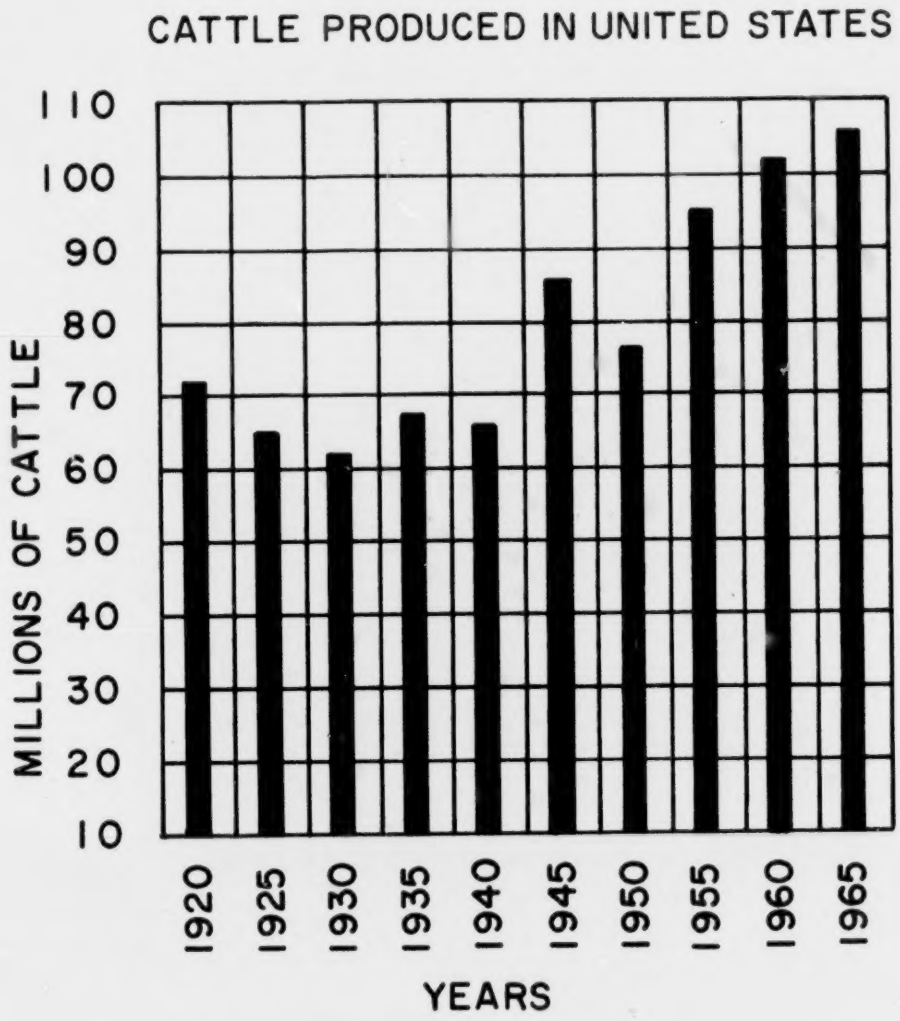
Dairying, careers in 3/100-202; cooperatives in Denmark 14/274; cooperatives in U.S. 16/398; sanitation 9/381; See also Cattle, dairy.

Factory; See Assembly line; Automation; Industrial Revolution; Manufacturing; Mass production.

Farming, See Agriculture; Gardening, Gardens.

Fruit, 5/72-91; annual amount used (table) 8/319-320; California production 10/181-182; citrus fruits 5/84-87; Florida's fruits 9/154; Middle Ages 1/257; See also Seed.

Hollywood, Cal; growth 14/441; map 14/446.



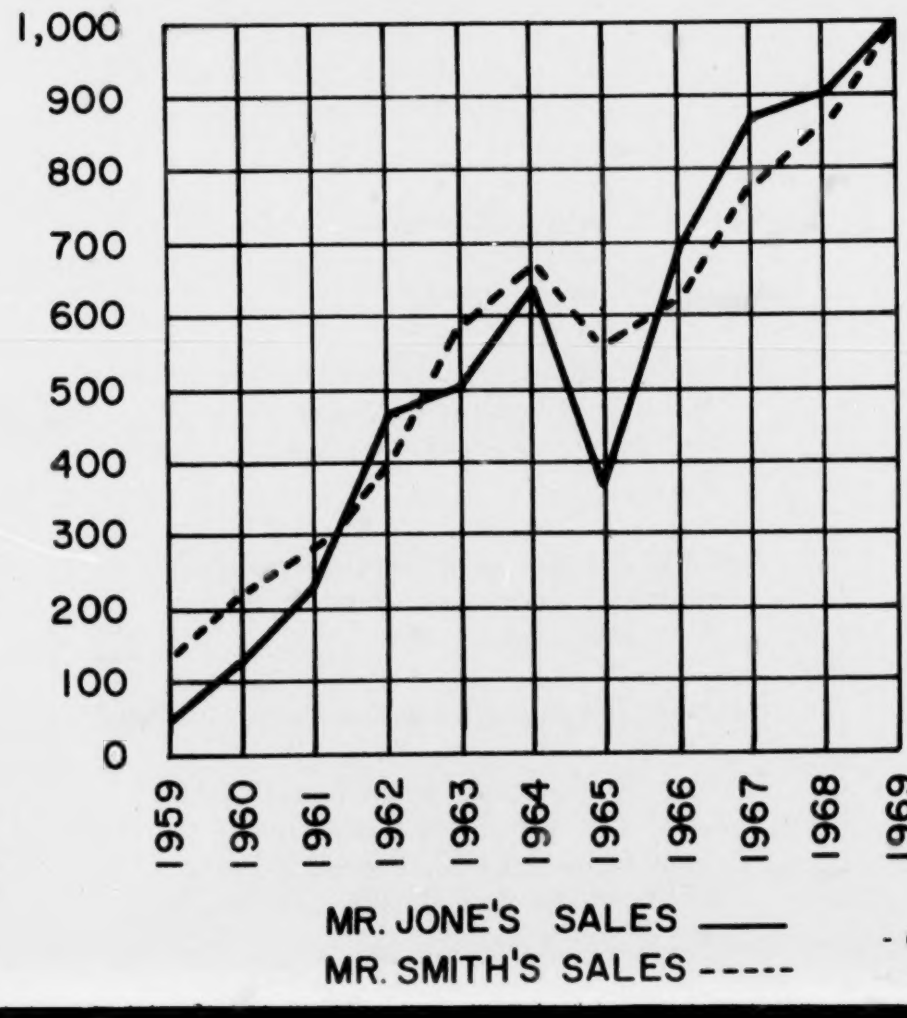
Use the graph to the left to answer questions 29 and 30.

29. Since 1950, the number of cattle produced in the United States has been

A. staying the same.
B. growing smaller.
C. going up one five year period and down the next.
D. growing larger.

30. In what years was the number of cattle produced the highest and the lowest?

A. Highest in 1945 and lowest in 1950.
B. Highest in 1965 and lowest in 1930.
C. Highest in 1965 and lowest in 1940.
D. Highest in 1960 and lowest in 1930.



Use the graph to the left to answer questions 31 and 32.

31. During which year did Mr. Jones and Mr. Smith sell the same number of books?

A. 1962
B. 1966
C. 1969
D. 1964

32. One year neither Mr. Jones nor Mr. Smith worked full time. During this year they both sold fewer books than they had sold the year before. Which year was this?

A. 1965
B. 1961
C. 1963
D. 1966

GO ON TO PAGE 7

Use the graph to the right to answer questions 33 and 34.

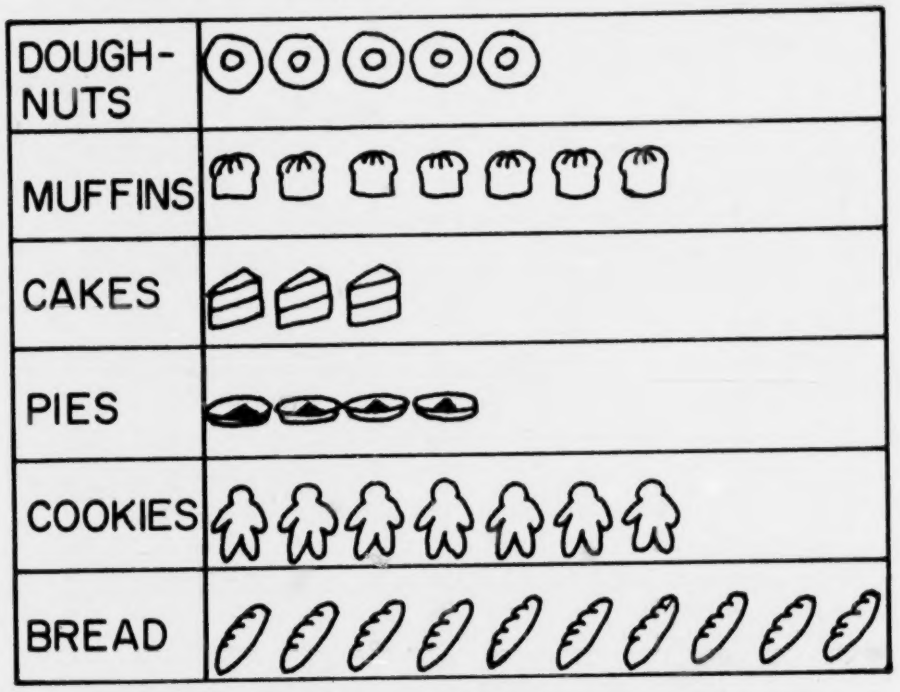
33. What two products added together sold the same number as did bread?

    A. Cookies and cakes.
    B. Doughnuts and muffins.
    C. Cookies and pies.
    D. Muffins and cookies.

34. What product sold twice as well as doughnuts?

    A. Cookies
    B. Bread
    C. Muffins
    D. Pies

BAKERY PRODUCTS SOLD DAILY BY MR. JONES



EACH SYMBOL EQUALS ONE DOZEN

Use the graph to the right to answer questions 35 and 36.

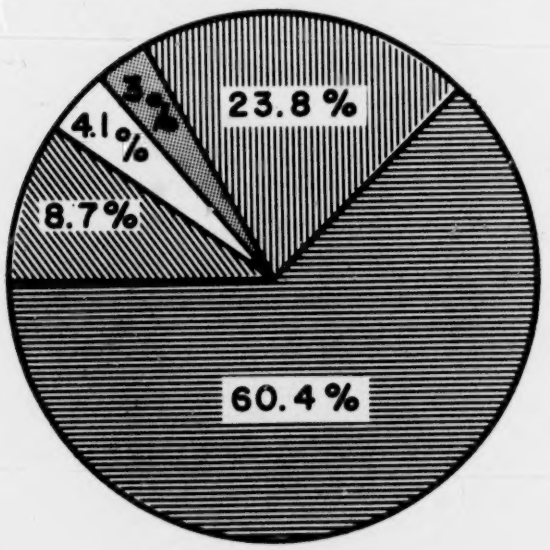
35. More than ½ of John's weekly allowance was spent for

    A. entertainment.
    B. clothing.
    C. savings.
    D. food.

36. The second largest part of John's allowance was spent for

    A. entertainment.
    B. food.
    C. clothing.
    D. savings.

JOHN'S WEEKLY ALLOWANCE



FOOD
SAVINGS
CLOTHING
OTHER
ENTERTAINMENT

GO ON TO PAGE 8

BOXES OF COOKIES SOLD BY GIRL SCOUTS

NAME	MON	TUES	WED	THURS	FRI	SAT	TOTAL
SUE	9	8	6	6	9	10	48
MARY	8	7	6	5	8	7	41
SALLY	9	6	9	10	10	9	53
BETTY	7	6	6	6	5	7	37
CLARA	2	3	3	4	6	3	21
JANET	7	5	9	8	8	7	44
JOAN	10	9	10	10	11	10	60
ADA	7	9	11	12	5	12	56
DAILY TOTAL	59	53	60	61	62	65	360

Use the table to the left to answer questions 37 and 38.

37. The smallest total number of boxes was sold on

    A. Monday
    B. Tuesday
    C. Wednesday
    D. Saturday

38. The girl who sold the most boxes of cookies during the week was

    A. Sally
    B. Ada
    C. Joan
    D. Sue

GO ON TO PAGE 9

TEST E-2: MAP READING SKILLS

Directions: The two maps to the right show a make-believe state. The map at the top is a physical-political map showing the oceans, rivers, mountains, cities, railroads and highways. The map below this one shows the livestock and grain products of this same state. Use these two maps to answer questions 39 - 42.

39. To travel from Newburg to Barnes by car, you would have to go first to

A. Pilot C. Alton
B. Grace D. Albion

40. Which city is connected by railroad to both the ocean and a lake?

A. Lakeview C. Lincoln
B. Alton D. Liberty

41. Which is likely to be the largest ocean port for shipping grain crops overseas?

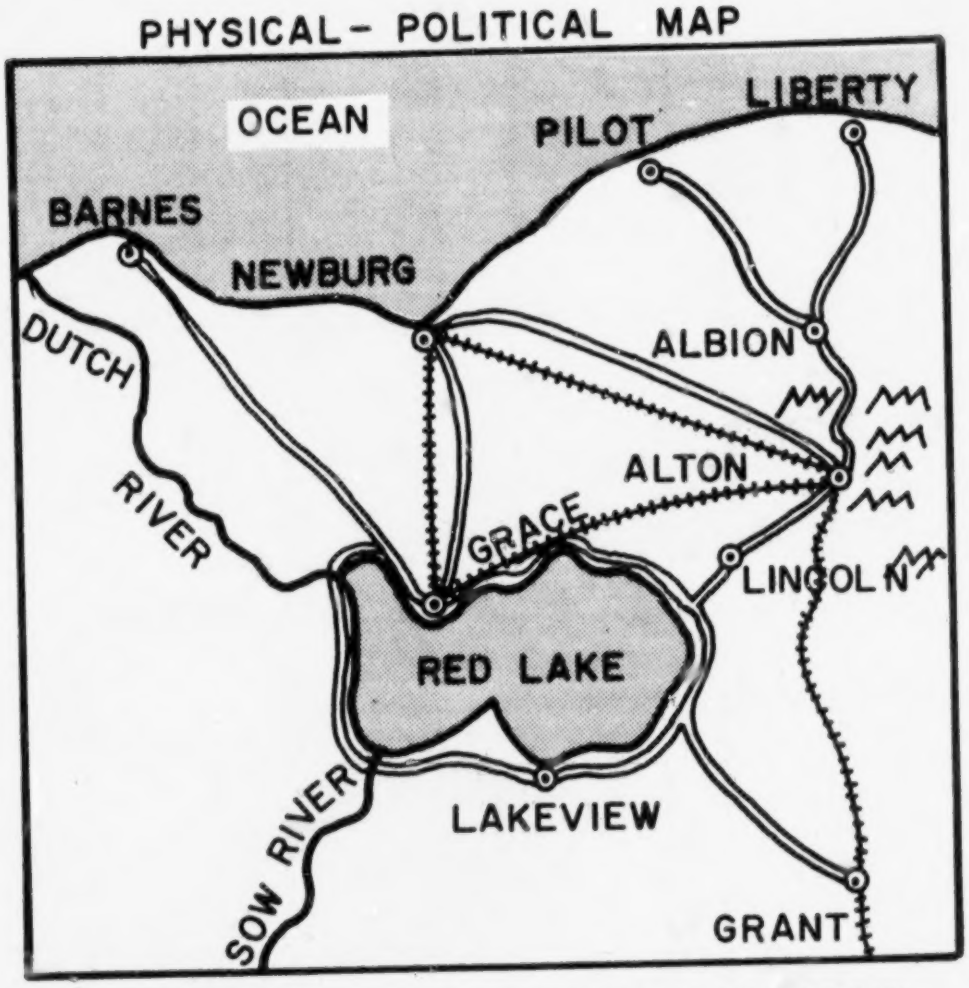
A. Newburg C. Liberty
B. Pilot D. Grace

42. In this area corn is most often found with

A. Wheat C. Cattle
B. Oats D. Sheep

GO ON TO PAGE 10

PHYSICAL- POLITICAL MAP

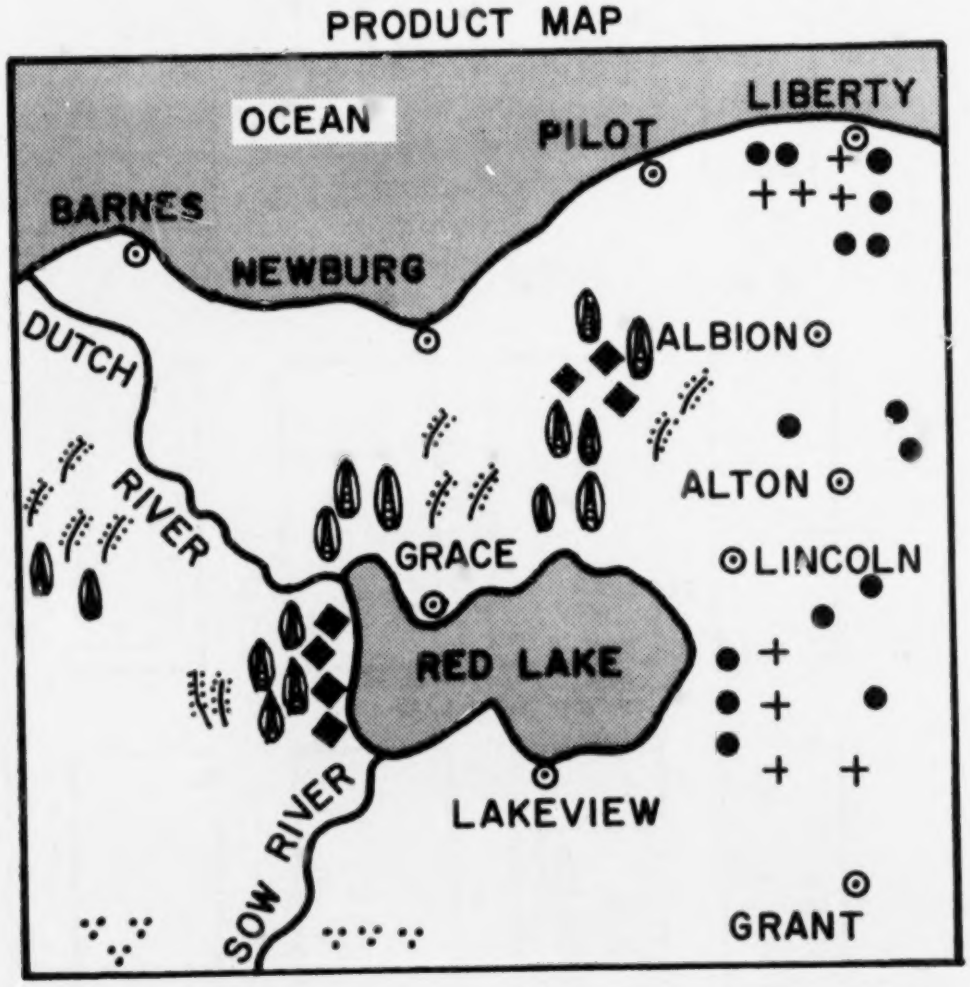


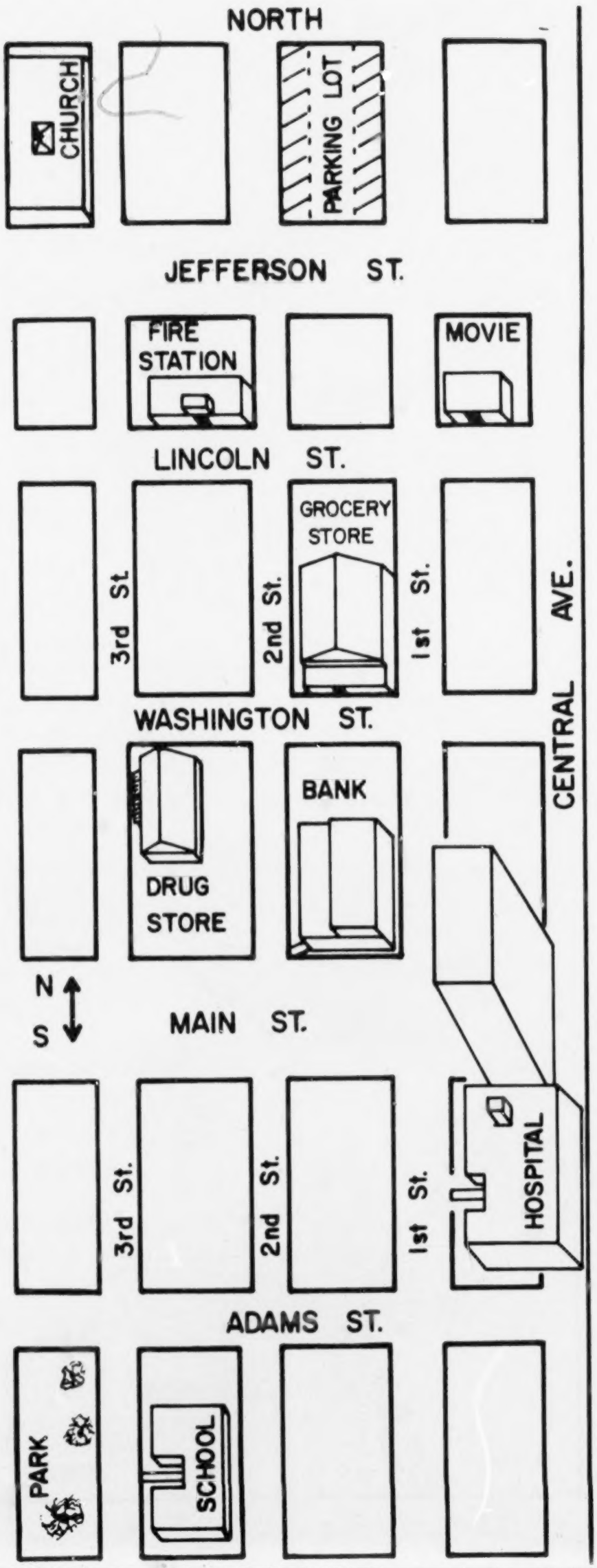
RIVERS
HIGHWAYS
RAILROADS
MOUNTAINS

LIVESTOCK
HOGS
CATTLE
SHEEP

GRAIN
CORN
OATS
WHEAT

PRODUCT MAP





The picture map on the left shows part of a town. The streets and important buildings are named. Use this map to answer questions 43 - 44.

43. What building is on the corner of 1st and Lincoln Streets?

    A. Bank
    B. Fire Station
    C. Hospital
    D. Movie

44. Lee lives on the corner of Adams and 2nd Streets. George lives on the corner of Lincoln and 3rd Streets. Which one lives closer to the Drug Store?

    A. Lee
    B. George
    C. Neither--same distance.
    D. One cannot tell from the map.

GO ON TO PAGE 11

Directions: There are three maps to the right on this page. All three show the same place. The numbers 1, 2, 3, 4 and 5 show the different states. The top map is a population map (number of people living in the areas); the middle map is an elevation map (high and low places in the areas); and the bottom map is a rainfall map (amount of rain in the areas). Use these maps to answer questions 45 - 48 below.

45. The largest city is most likely in

A. the mountains
B. State 2
C. State 5
D. State 4

46. In which state are there at least 40 people per square mile in all parts of the state?

A. State 3
B. State 4
C. State 5
D. State 1

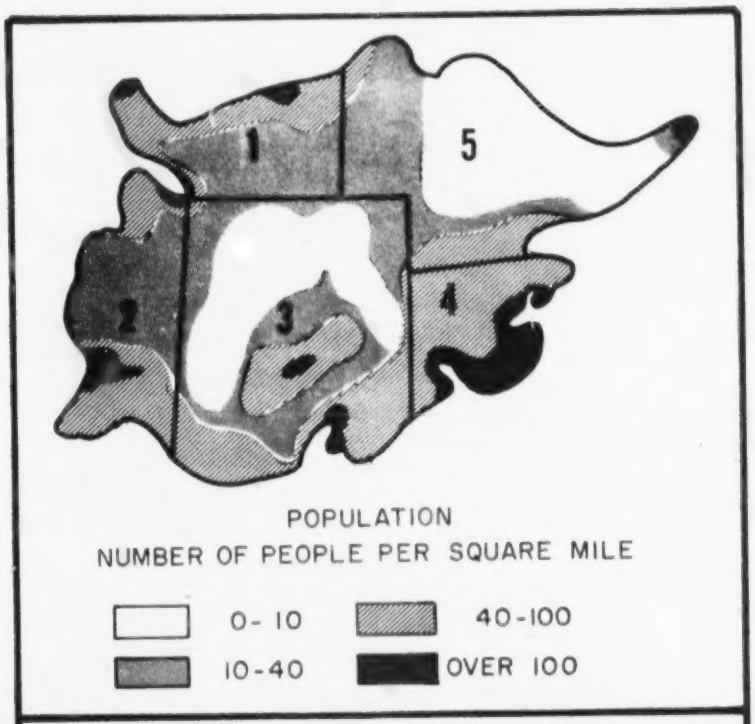
47. The city with the least rainfall is in

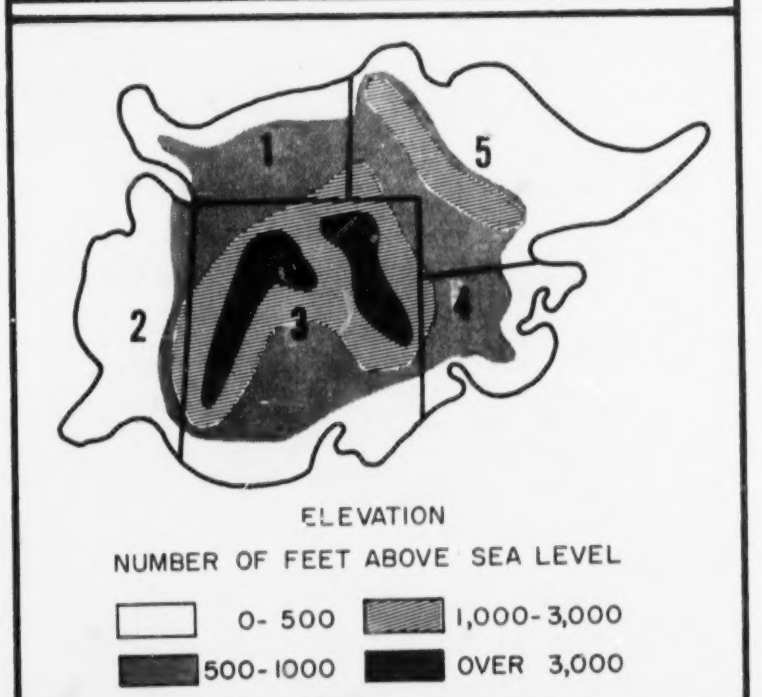
A. State 5
B. State 4
C. State 1
D. State 3

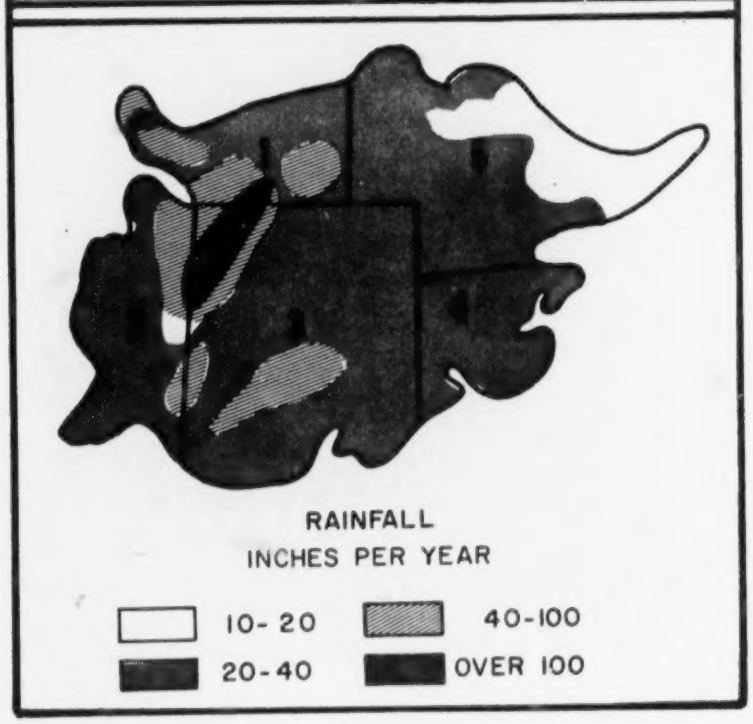
48. The place where states 1 and 5 join state 3

A. has as much rainfall as any other place on the map.
B. has a population of more than 40 people per square mile.
C. has less than 40 inches of rainfall each year.
D. is less than 1,000 feet above sea level.

STOP HERE







APPENDIX B

7. Answer Sheet for Forms 1 and 2

UNIVERSITY OF ILLINOIS

RESEARCH STUDY SKILLS TEST

FORM 1

1970

USE PENCIL ONLY. ERASE CLEANLY.
COMPLETE THE IDENTIFICATION PART FIRST.

YOUR LAST NAME (CARMEN SEE LETTER OF YOUR NAME IN EACH SPACE BELOW.) — 1ST MAID INIT.

YOUR BIRTHDAY — MONTH: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC — DAY

YOUR AGE

ARE YOU TAKING FORM ONE OR TWO?

TEST YOUR CLASS NUMBER

Library Skills
Dictionary Skills
Reference Skills
Graphs and Tables
Map Reading

Today's Date _____ Month _____ Day _____

Your Last Name _____ First _____

Boy Girl Birthday (Circle One)

Test Form _____ Grade _____ Teacher _____

School _____ City _____

TEST A-1 LIBRARY SKILLS

	A	B	C	D
1				●
2		●		
3		●		
4			●	
5		●		
6	●			
7	●			
8			●	
9			●	
10		●		

GO ON TO PAGE TWO

TEST B-1 DICTIONARY SKILLS

	A	B	C	D
11			●	
12		●		
13		●		
14		●		
15				●
16			●	
17	●			
18		●		

GO ON TO PAGE FOUR

TEST C-1 REFERENCE SKILLS

TABLE OF CONTENTS

	A	B	C	D
19		●		
20				●
21	●			
22				●

USE OF INDEX

	A	B	C	D
23		●		
24				●
25	●			

KEY WORDS

	A	B	C	D
26	●			
27				●
28		●		

GO ON TO PAGE SIX

TEST D-1 READING GRAPHS AND TABLES

	A	B	C	D
29				●
30		●		
31			●	
32	●			
33	●			
34		●		
35				●
36			●	
37		●		
38			●	

GO ON TO PAGE NINE

TEST E-1 MAP READING SKILLS

	A	B	C	D
39		●		
40		●		
41	●			
42	●			
43				●
44		●		
45				●
46		●		
47	●			
48			●	

STOP HERE

UTILITY FORM 6543 OPTICAL SCANNING FORMS™ OPTICAL SCANNING CORPORATION

UNIVERSITY OF ILLINOIS

RESEARCH STUDY SKILLS TEST

1970

FORMS [redacted]

USE PENCIL ONLY. ERASE CLEANLY.
COMPLETE THE IDENTIFICATION PART FIRST.

1 YOUR LAST NAME (DARKEN ONE LETTER OF YOUR NAME IN EACH SPACE BELOW.)

1ST NAME INIT.

2 YOUR BIRTHDAY — MONTH: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

3 YOUR AGE

4 ARE YOU BOY GIRL

5 TEST FORM

6 YOUR GRADE

7 CLASS NUMBER

	TEST A-1 LIBRARY SKILLS	TEST B-1 DICTIONARY SKILLS	TEST C-1 REFERENCE SKILLS	TEST D-1 READING GRAPHS AND TABLES	TEST E-1 MAP READING SKILLS
			TABLE OF CONTENTS		
1	C	C	B	D	B
2	B	C	B	B	B
3	D	B	C	D	A
4	C	C	A	C	B
5	B	B	D	D	A
6	D	C	C	C	D
7	A	D	B	D	B
8	C	C	A	C	D
9	C	C	C	D	B
10	B	B	D	C	B
			USE OF INDEX		
11	C	C	B	D	B
12	C	C	A	B	B
13	B	B	D	D	A
14	B	B	A	C	B
15	D	C	C	D	D
16	C	C	D	C	B
17	A	D	A	D	B
18	B	B	C	C	D
			KEY WORDS		
19	B	C	B	D	B
20	A	C	A	B	B
21	D	D	D	D	A
22	C	C	C	C	A
23	B	C	B	D	D
24	D	C	D	C	B
25	A	D	A	D	B
26	B	C	B	D	D
27	D	D	D	C	B
28	B	B	C	D	B
29	D	C	B	D	B
30	B	C	A	B	B
31	D	C	C	D	A
32	A	C	A	D	A
33	B	C	B	D	D
34	B	C	A	D	B
35	D	C	B	D	D
36	C	C	D	D	B
37	B	C	B	D	A
38	C	C	D	D	B
39	B	C	B	D	B
40	B	C	A	D	B
41	A	C	D	D	A
42	A	C	C	D	A
43	D	C	B	D	D
44	B	C	D	D	B
45	D	C	B	D	D
46	B	C	D	D	B
47	A	C	C	D	A
48	B	C	B	D	B

TODAY'S DATE _____ YOUR BIRTHDAY _____ MONTH _____ DAY _____

BOY GIRL (CIRCLE ONE)

NAME _____ LAST _____ FIRST

TEST FORM _____ GRADE _____ TEACHER _____

SCHOOL _____ CITY _____

GO ON TO PAGE TWO

GO ON TO PAGE FOUR

GO ON TO PAGE SIX

GO ON TO PAGE NINE

STOP HERE

UTILITY FORM 6543

OPTICAL SCANNING FORMS TM OPTICAL SCANNING CORPORATION

APPENDIX B

8. Summary Statistics for Diagnostic Tests Forms 1 and 2

APPENDIX B -- ITEM 8

SUMMARY STATISTICS FOR DIAGNOSTIC TESTS
Forms 1 and 2

Skill	Grade	Form 1				Form 2			
		No.	M	S.D.	Rel.*	No.	M	S.D.	Rel.*
Library	4	101	4.66	2.01	.424	108	4.40	1.50	
Dictionary	4	101	3.36	1.81	.466	108	4.23	1.72	.370
Reference	4	101	4.06	2.17	.541	108	4.92	2.30	.586
Graphs & Tables	4	101	4.50	2.66	.723	108	5.25	2.77	.749
Map Reading	4	101	3.90	2.32	.619	108	3.69	2.47	.686
Total	4	101	20.49	8.31	.848	108	22.49	8.08	.834
Library	5	103	5.65	1.87	.327	103	5.35	1.89	.340
Dictionary	5	103	4.15	1.75	.399	103	4.36	1.61	.272
Reference	5	103	5.63	2.10	.489	103	5.75	2.55	.692
Graphs & Tables	5	103	6.46	2.21	.592	103	6.33	2.61	.733
Map Reading	5	103	5.24	2.27	.575	103	5.12	2.33	.599
Total	5	103	27.13	7.47	.806	103	26.90	8.42	.851
Library	6	93	5.81	1.87	.335	100	5.84	1.99	.428
Dictionary	6	93	4.76	1.75	.426	100	4.87	1.69	.377
Reference	6	93	5.84	2.02	.448	100	7.00	2.05	.556
Graphs & Tables	6	93	7.10	2.39	.709	100	7.58	2.03	.615
Map Reading	6	93	6.03	2.32	.617	100	5.83	2.17	.535
Total	6	93	29.54	7.84	.833	100	31.12	7.50	.823
Library	4,5,6	297	5.36	1.98	.403	311	5.18	1.89	.336
Dictionary	4,5,6	297	4.07	1.86	.481	311	4.48	1.69	.354
Reference	4,5,6	297	5.16	2.24	.556	311	5.86	2.46	.665
Graphs & Tables	4,5,6	297	5.99	2.66	.734	311	6.36	2.67	.749
Map Reading	4,5,6	297	5.03	2.46	.651	311	4.85	2.49	.662
Total	4,5,6	297	25.62	8.74	.861	311	26.73	8.74	.863

*Reliability (KR-21)

APPENDIX B

9. Letter to Teachers and Principals Regarding Interpretation of Scores -- Forms 1 and 2

INTERPRETATION OF RESEARCH STUDY SKILLS TEST

With only 608 students (about 200 at each grade level) and with this test not yet fully developed, the following table by which raw scores may be interpreted is only tentative, but it may help you to see how your youngsters would compare with other children at the same grade level in Rockford.

The enclosed print-out gives raw scores, standard scores and percentile rank for each sub-test and for the total test. Only the raw scores for the sub-tests interpreted according to the following table will have much meaning since the standard scores and percentiles are for all grades combined. These data are being sent to each cooperating teacher for his (her) class, to each cooperating building principal for the students in his (her) building, and to Miss Blanche Martin for the entire group. No child's scores will be further revealed.

GRADE 4

	A 1 Library	B 1 Dictionary	C 1 Reference	D 1 Graphs & Tables	E 1 Map Reading
Disabled	0	0	0	0	0
Retarded	1-2	1-2	1	1-2	1-2
Average	3-5	3-5	2-5	3-6	3-5
Superior	6-7	6	6-7	7-8	6-7
V. Super.	8-10	7-8	8-10	9-10	8-10

GRADE 5

	A 1 Library	B 1 Dictionary	C 1 Reference	D 1 Graphs & Tables	E 1 Map Reading
Disabled	0-2	0-1	0-1	0-2	0-2
Retarded	3	2	2-3	3-4	3
Average	4-7	3-5	4-7	5-8	4-7
Superior	8	6-7	8	9	8-9
V. Super.	9-10	8	9-10	10	10

GRADE 6

	A 1 Library	B 1 Dictionary	C 1 Reference	D 1 Graphs & Tables	E 1 Map Reading
Disabled	0-2	0-1	0-2	0-2	0-2
Retarded	3-4	2	3-4	3-5	3-4
Average	5-7	3-6	5-8	6-8	5-7
Superior	8	7	9	9	8-9
V. Super.	9-10	8	10	10	10

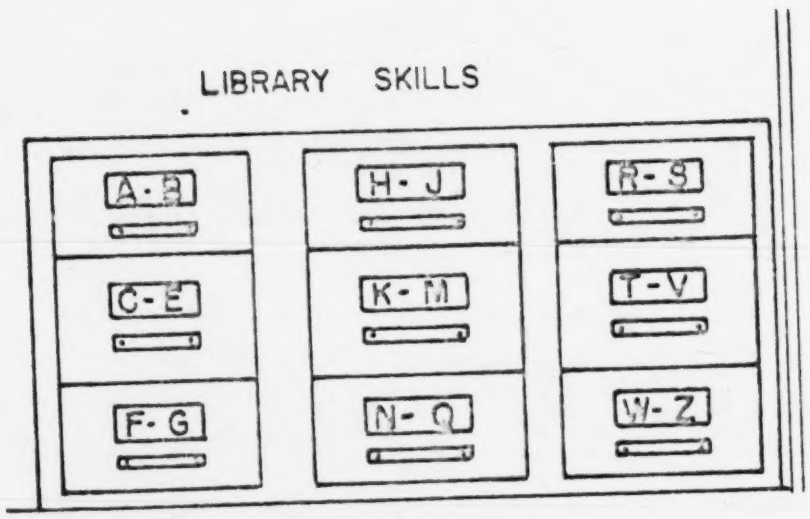
APPENDIX C

1. Follow-up Test -- Library Skills

RESEARCH STUDY SKILLS TEST

J. HARLAN SHORES

MARY C. NEWLAND



Name _____
Last First

Grade _____ Teacher _____

Date _____ Sex _____ Age _____
Boy or Girl

When Is Your Birthday ? Month _____ Day ____

School _____ City _____

1970

Key

INSTRUCTIONS TO STUDENTS

This is a test of library skills. These are the skills needed to be able to use a card catalog, to find or place books on a shelf in the library, and to know which books to use for different kinds of information.

Several answers are given for most questions, but only one answer is the best one. For these questions, you are to choose the <u>one</u> best answer and circle the letter in front of the answer you choose. There is no answer sheet for this test. You are to mark your answers in the test booklet.

The sample below shows you how to mark your answers.

<u>Sample Exercise</u>

Where would you look to find out which movie is showing at one of your local theaters?

A. The World Almanac
B. A weekly magazine
(C.) The daily newspaper
D. T.V. Guide

The correct answer is the daily newspaper. Since this is choice C, a circle is drawn around the letter C to show that it is the best answer.

Read the directions for each part carefully. Try to answer every question, but don't spend too much time on any one question. When you finish one part, go right on to the next. You will have 45 minutes for this test.

<u>DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO</u>.

DIAGNOSTIC TEST
LIBRARY SKILLS

DIRECTIONS: This is a test of how to use the library. Four answers are given for each questions, but only one of these answers is the best one. You are to choose the one answer that you think is better than the others. Then draw a circle around the letter in front of that answer.

1. If you had read a book written by Mark Twain and couldn't remember the name of the book, the best place in the library to find it would be

   A. in an encyclopedia.
   B. in a dictionary.
   (C) in the card catalog.
   D. in an index.

2. Suppose you are looking in the card catalog for a book called The Aztec Indians of Mexico written by Sonia Bleeker.

   Under what letter in the card catalog would you find the title card?

   A. The letter "M". C. The letter "I".
   (B) The Letter "A". D. The letter "B".

3. Under what letter in the card catalog would you look to find the author card for the above book?

   A. The letter "A". (C) The letter "B".
   B. The letter "S". D. The letter "I".

4. Under what letter in the card catalog would you look to find the subject card for the above book?

   A. The letter "A". C. The letter "M".
   (B) The letter "I". D. The letter "B".

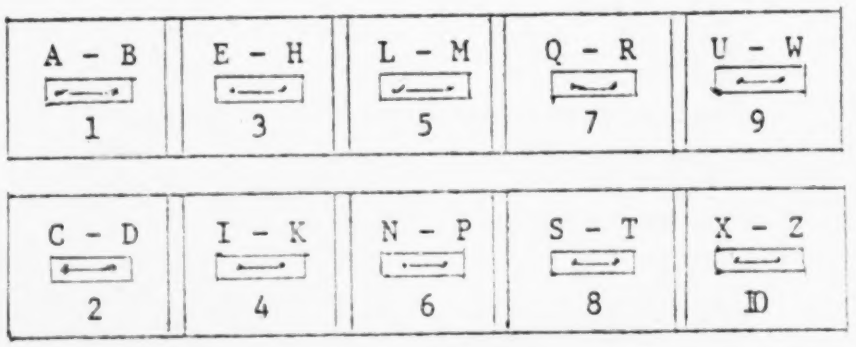
5. If you had read a book about wild animals, the best place to find the names of other books on this subject would be

   A. in an encyclopedia.
   (B) in the card catalog.
   C. on the library shelves.
   D. in a bibliography.

6. Jack London was an American author who wrote many books. If you had just read his book The Call of the Wild and wanted more of his books, which library card catalog drawer would you use?

   A. The W drawer. (C) The L drawer.
   B. The C drawer. D. The J drawer.

The diagram below shows the front of the drawers in a card catalog. For questions 7 - 11, use this diagram to find the best place to look for the card on the subjects, titles, or authors listed.



7. Which drawer above would you use to find a book by Mary Alice Jones?

   (A) Drawer No. 4. C. Drawer No. 5.
   B. Drawer No. 1. D. Drawer No. 3.

8. Which drawer above would you use to find something about the Mammoth Cave in Kentucky?

   A. Drawer No. 2. C. Drawer No. 8.
   B. Drawer No. 4. (D) Drawer No. 5.

9. Which drawer above would you use to find the author of the book The Gold Bug?

   A. Drawer No. 1. C. Drawer No. 2.
   B. Drawer No. 8. (D) Drawer No. 3.

10. Which drawer above would you use to find something about countries of Africa?

    A. Drawer No. 4. C. Drawer No. 2.
    B. Drawer No. 3. (D) Drawer No. 1.

11. Which drawer above would you use to find something about different forms of money?

    (A) Drawer No. 5. C. Drawer No. 3.
    B. Drawer No. 2. D. Drawer No. 6.

GO ON TO PAGE 2

12. Where would you look to find the most recent facts about how much corn is grown in Iowa?

A. An encyclopedia.
B. The World Almanac.
C. The Farm Journal.
D. A geography book.

13. The best place to look to find the most complete maps of Asia would be

A. an encyclopedia.
B. The World Almanac.
C. an atlas.
D. a geography book.

14. Where is the best place to find how to use the word "fluorescent" correctly?

A. A dictionary.
B. An atlas.
C. A language book.
D. An encyclopedia.

15. Where would be the best place to look to find a list of U.S. cities with a current population of 100,000 or more?

A. An encyclopedia.
B. A geography book.
C. The World Almanac.
D. An atlas.

16. Where would be the best place to find the distance between London and Bombay?

A. A geography book.
B. A World Atlas.
C. An encyclopedia.
D. A map.

17. Where would be the best place to find the meaning of the word "pragmatic"?

A. An encyclopedia.
B. A language book.
C. A dictionary.
D. An atlas.

18. Where would be the best place to look to find something about the life of Caesar?

A. A geography book.
B. The World Almanac.
C. An encyclopedia.
D. A dictionary.

19. If you wanted to find the present prices of stocks and bonds, the best place to look would be

A. an encyclopedia.
B. The World Almanac.
C. the daily newspaper.
D. a weekly magazine.

20. Where would be the best place to find a listing of all major earthquakes?

A. An encyclopedia.
B. A geography book.
C. The World Almanac.
D. A newspaper.

21. If you wanted a summary report of the news of the week, the best place to find it would be

A. a news magazine.
B. Reader's Guide to Periodical Literature
C. a newspaper.
D. The World Almanac.

22. In placing a book on a shelf in the library, you would use the author's name to decide where to put the book if the book is

A. out of print.
B. non-fiction.
C. fiction.
D. for older students.

23. If the subject of a book is the first thing you consider in placing a book on the shelf, the book should be

A. an encyclopedia.
B. fiction.
C. an atlas.
D. non-fiction.

GO ON TO PAGE 3

24. Where would be the best place to look to find out if a book had anything about George Washington in it?

A. Table of Contents.
B. Appendix.
C. Glossary.
(D) Index.

25. Which part of your textbook is most like a dictionary?

A. The index.
(B) The glossary.
C. The appendix.
D. The bibliography.

26. If you wanted to know on which page in the book Chapter II started, where would you look?

A. Index.
(B) Table of Contents.
C. Title Page.
D. Glossary.

27. Where in a book would you look to find a detailed listing of all the topics in the book in alphabetical order with page numbers?

A. Table of Contents.
(B) Index.
C. Glossary.
D. Appendix.

28. If you don't know the meaning of the word mitosis in the textbook you are using, where in that book might you find the meaning?

(A) Glossary.
B. Index.
C. Appendix.
D. Bibliography.

29. Where in the book would you find a listing of the main subjects of the book with their page numbers?

(A) Table of Contents.
B. Index.
C. Glossary.
D. Appendix.

30. In what part of a book may you often find additional tables not found in the main part of the book?

A. Glossary.
B. Index.
C. Bibliography.
(D) Appendix.

31. Where would you look to find a list of writings about a certain subject or by a certain author?

A. Glossary.
B. Index.
(C) Bibliography.
D. Appendix.

32. If you didn't know how to pronounce a word in your textbook, in what part of that book would you be most likely to get help?

A. Appendix.
(B) Glossary.
C. Table of Contents.
D. Bibliography.

33. If your teacher asked you to find the page number on which you would find a map of China, where would be the best place to look?

A. Table of Contents.
(B) Index.
C. Glossary.
D. Appendix.

34. Where in a book would you be most likely to find the title, author, and publisher?

A. Appendix.
B. Index.
(C) Title Page.
D. Table of Contents.

GO ON TO PAGE 4

Questions 35 through 40 contain lists of books to be placed in order on a library shelf. For each question, place a 1 in the blank before the book that would come first on the shelf, a 2 before the book that would come second, a 3 before the book that would come third, etc. for each of the five books under that question.

35.
- 1 Oliver Twist, Dickens
- 4 The Sea Wolf, London
- 3 Main Street, Lewis
- 2 Riders of the Purple Sage, Gray
- 5 Little House in the Big Woods, Wilder

36.
- 5 Mr. Lincoln's Washington, Brooks 973.7
- 3 Business Leadership and Social Responsibility, Duttweiler 658.8
- 1 Marriage Analysis, Christensen 392.5
- 2 Language in Thought and Action Hayakawa 422
- 4 The Arabs: Their History and Future, Berque 915.3

37.
- 3 Popo's Miracle, Simon
- 1 Dragon Fish, Buck
- 5 Mayflower Boy, Young
- 2 Key Corner, Evans
- 4 Shifting Winds, Ware

38.
- 2 Materials in Modern Education Cronbach 371.3
- 3 The Teachers Word Book of 30,000 Words, Thorndike and Lorge 428.3
- 1 Korean War Bibliography, Blanchard 016.9
- 5 The Americas on the Eve of Discovery, Driver 970.1
- 4 Progress in Nutrition Cuthbertson 591.13

39.
- 3 Sensible Kate, Gates
- 1 Copper-Toed Boots, DeAngeli
- 2 Us and the Duchess, Fenton
- 5 Polar Bear Twins, Tomkins
- 4 Honey Jane, Justus

40.
- 2 Zone Mental Health Centers, Reidy 362.2
- 4 The Detroit Money Market, Woodworth, 658
- 3 The Neutrino, Ghost Particle of the Atom, Asimov 539.7
- 1 Encyclopedias: Their History Throughout the Ages, Collison 030
- 5 The Western Hero in History and Legend, Steckmesser 920.078

GO ON TO PAGE 5

Class numbers marked on a book are taken from the Dewey Decimal System. Listed below are the numbers and topics used in this System. For the questions below, use these Dewey numbers and topics to decide where to find the most information.

THE DEWEY DECIMAL SYSTEM

000 - 099	General Works
100 - 199	Philosophy
200 - 299	Religion
300 - 399	Social Sciences
400 - 499	Languages
500 - 599	Pure Science
600 - 699	Applied Science
700 - 799	Arts and Recreation
800 - 899	Literature
900 - 999	History

41. If you wanted some information from reference books in the library, where would you look?

A. 400 - 499
B. 800 - 899
(C) 000 - 099
D. 300 - 399

42. Where would you find something about the Revolutionary War?

(A) 900 - 999
B. 000 - 099
C. 300 - 399
D. 800 - 899

43. If you wanted to find a book about airplanes or automobiles, where would you look?

(A). 600 - 699
B. 500 - 599
C. 700 - 799
D. 900 - 999

44. If you were interested in comparing the beliefs of Buddha with the beliefs of Christ, where would you look?

A. 800 - 899
(B) 200 - 299
C. 900 - 999
D. 300 - 399

APPENDIX C

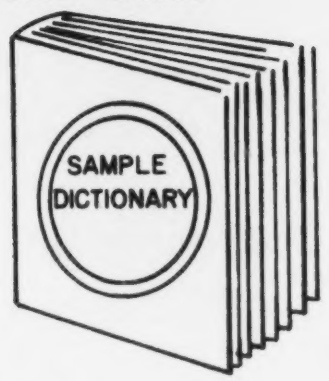
2. Follow-up Test -- Dictionary Skills

RESEARCH STUDY SKILLS TEST

J. HARLAN SHORES

MARY C. NEWLAND

DICTIONARY SKILLS



Name _____
Last First

Grade _____ Teacher _____

Date _____ Sex _____ Age _____
Boy or Girl

When Is Your Birthday ? Month _____ Day ____

School _____ City _____

1970
Key

INSTRUCTIONS TO STUDENTS

This is a test of dictionary skills. These are the skills needed to be able to alphabetize, to use guide words, to spell, to divide words into syllables, to pronounce words correctly, and to find meanings of words.

Several answers are given for most questions, but only one answer is the best one. For these questions, you are to choose the <u>one</u> best answer and circle the letter in front of the answer you choose. There is no answer sheet for this test. You are to mark your answers in the test booklet.

The sample below shows you how to mark your answers.

<u>Sample Exercise</u>

Which of these words comes first in a dictionary?

A. pet
(B.) pack
C. pretty
D. pond

All of these words begin with p, so you would go to the next letter. Since <u>a</u> comes before <u>e</u>, <u>r</u>, or <u>o</u>, <u>pack</u> is the best answer. The letter <u>B</u> in front of <u>pack</u> is circled to show that it is the best answer.

Read the directions for each part carefully. Try to answer every question, but don't spend too much time on any one question. When you finish one part, go right on to the next. You will have 45 minutes for this test.

<u>DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO</u>.

DIAGNOSTIC TEST
DICTIONARY SKILLS

1. Which of the following is not found in a dictionary?

   A. How to pronounce a word.
   B. How to divide a word into syllables.
   (C.) How to spell a word.
   D. How to say the word in different languages.

For each of questions 2 through 6, which of the words listed would come first in a dictionary?

2. (A.) creed
   B. crutch
   C. crystal
   D. crinkle

3. A. horse
   B. horror
   (C.) horde
   D. hornet

4. A. solstice
   B. solvent
   (C.) soldier
   D. solemn

5. A. respond
   (B.) rescue
   C. resist
   D. resent

6. A. transit
   (B.) transfer
   C. transpose
   D. transgress

7. Listed below are guide words found on four pages of a dictionary. On which page would you find the word grime?

   A. grope - grunt
   (B.) great - gripe
   C. grain - grease
   D. grisley - grocer

8. Listed below are guide words found on four pages of a dictionary. On which page would you find the word bang?

   A. banjo - banter
   B. bandit - bandy
   C. banal - bandage
   (D.) bane - banish

9. Listed below are guide words found on four pages of a dictionary. On which page would you find the word choice?

   A. choose - choral
   B. choke - cholera
   (C.) chock - choir
   D. chord - chow

10. Listed below are guide words found on four pages of a dictionary. On which page would you find the word recoup?

    (A.) recount - recover
    B. recognition - recoil
    C. reconcile - record
    D. recollect - recommend

11. If you didn't know how to spell the word meaning more than one child, how should you use the dictionary to find out how to spell this word?

    A. Guess how the word might be spelled and look up that word.
    (B.) Look up the word child.
    C. Look through all words beginning with the letter c.
    D. Look up a word meaning something like child such as youth or baby.

12. If you didn't know how to spell the word meaning more than one woman, how should you use the dictionary to find out how to spell this word?

    A. Guess how the word might be spelled and look up that word.
    (B.) Look up the word woman.
    C. Look through all words beginning with the letter w.
    D. Look up a word meaning something like woman such as female or girl.

GO ON TO PAGE 3

cho·rus (kôr′ əs) n. 1. a group of people who sing together [The hymn was sung by the chorus.] 2. music which is sung by a group. 3. several voices speaking at the same time [He was surprised by a chorus of answers.] 4. the part of a song that is repeated [Most people knew the words of only the chorus.] v. to speak together [The children chorused their support of the plan to have a picnic.] --cho·ruses, pl.; cho·rused, p.t. & p.p.; cho·rusing, pr. p.

du·pli·cate (doo̅′ plə kit) adj. exactly like something else, double [We have duplicate keys for the room.] --n. an exact copy, something exactly like another thing [He kept one key and gave his brother a duplicate.] v. (doo̅′ plə kāt) to make a copy of; to repeat exactly; to double [He duplicated the papers in his file.] -- du·pli·ca·tive, adj.

fal·la·cious (fə lā′ shəs), adj. misleading; unsound; mistaken [He was wrongly convicted on fallacious evidence.]--fal·la·cious·ly, adv.; fal·la·cious·ness, n.

grade (grād) n. place in a series or scale of order or quality [a high grade in the navy.] 2. a group of things of the same or similar quality [a good grade of leather.] 3. a class in school, usually equal to one year [the fifth grade.] 4. a mark or letter or rating to show how well one has done [She got a grade of A on the test.] 5. the slope of a road [a steep grade.] v. 1. to sort or place in classes [to grade oranges.] 2. to give a mark to [The teacher will grade the papers.] 3. to make more nearly level [to grade a highway.]--graded, p.t. & p.p.; grading, pr. p.

li·no·le·um (li nō′ li əm) n. a hard smooth covering for a floor or other surface.

man·i·fest (man′ ə fest) adj. easy to understand or see; clear; plain [His joy was manifest.] v. to show clearly; to prove; to display, as [to manifest his feelings.] n. a list of a ship's cargo [The custom officials examined the manifest.] --man·i·fest·ly, adv.; man·i·fest·ness, n.; manifested, p.t. & p.p.

pur·loin (pu̅r loin′) v. to take dishonestly; to steal. --pur·loin·er, n.

rem·i·nis·cence (rem ə nis′ 'ns) n. the act of recalling things that happened in the past; memory [The old lady smiled in reminiscence as she looked through her bridal book.]

re·serve (ri zu̅rv′), v. 1. to keep back for later or future use [to reserve part of one's allowance to buy a bicycle.] 2. to arrange to have saved for one's later use [to call and have a school reserve two seats for a game.] 3. to keep back for one's own use [to reserve the right to buy something later.] --n. 1. something kept back or saved; a stake [The company had money in reserve to meet the payroll.] 2. a tract of land set aside for a special purpose [a forest reserve.] 3. a likelihood of keeping silent or not showing one's feelings. adj. kept back [a reserve supply.] reserves, pl. n. a part of a military force held back to be used later. -- re·served, p.t. & p.p.; re·serv·ing, pr.p.

spon·ta·ne·ous (spän tā′ ni əs) adj. 1. doing something freely, without thought or effort; natural [The crowd burst into spontaneous applause as the pitcher completed a no-hit game.] 2. brought about by its own force [The fire was caused by spontaneous combustion.] -- spon·ta·ne·ous·ly, adv.; spon·ta·ne·ous·ness, n.

tac·i·turn (tas′ ə turn) adj. silent; not talkative.

PRONUNCIATION GUIDE

fat ā̆pe cā̆r ten ē̆ven hit bī̆te gō̆ hôrn

to͞ol book up fu̅r get joy yet chin

she thin then zh = s in pleasure

ə = a in ago
e in agent
i in sanity
o in confess
u in focus

LOOK ON THE OPPOSITE PAGE. THERE YOU WILL FIND A SAMPLE DICTIONARY AND A PRONUNCIATION GUIDE. The answers to questions 13 through 31 may be found by using these materials.

13. What is the correct spelling of the plural of the word chorus?

A. chorrused
B. choruses
C. chorused
D. chorusing

14. In the word purloin, the u is said like the u in

A. up
B. fur
C. focus
D. due

15. The word linoleum has four syllables. Which syllable should have the greatest force when it is spoken?

A. li
B. no
C. le
D. um

16. Which sentence tells about a spontaneous happening?

A. His defense was carefully planned.
B. He ran without thinking about the mob.
C. His program was made out for the next three years.
D. They were married after a long engagement.

17. If you looked up the word reserve in the dictionary and found a small n after it, the best choice of meanings would be

A. hiding one's feelings. "She held her tears in reserve".
B. an extra supply. "He paid the bill from his reserve fund".
C. to keep back. "He will reserve that money to buy a gift".
D. to save. "Please reserve two tickets for the theater".

18. If you come to the end of a line you are writing and find yourself in the middle of the word chorus, it would be correct to divide it after the letters

A. cho
B. chor
C. ch
D. can't be divided

19. In the word linoleum, the o is said like the o in

A. go
B. horn
C. tool
D. to

20. What is the correct spelling of the past tense of the word reserve?

A. reserving
B. reserved
C. resert
D. reservered

21. The word reminiscence has four syllables. Which syllable should have the greatest force when it is spoken?

A. rem
B. i
C. nis
D. cence

22. To find the correct spelling of these words in a dictionary, first look up the word

A. manifested
B. manifestly
C. manifestness
D. manifest

23. Which sentence describes something fallacious?

A. All his statements could be proved.
B. Her report was filled with untrue statements.
C. He presented his case with sound reasons.
D. The company was well known and was a good one.

24. If you looked up the word duplicate in the dictionary and found a small v after it, the best choice of meaning would be

A. to do the same thing. "He duplicated the drawings".
B. double. "It was a duplicate letter".
C. a copy. "I kept the duplicate of the insurance policy".
D. like another thing. "The twins wore duplicate dresses".

25. If you come to the end of a line you are writing and find yourself in the middle of the word fallacious, it would be correct to divide it after the letters

A. fall
B. falla
C. fa
D. fallac

GO ON TO PAGE 4

26. In the word manifest, the i is said like the i in

A. bite
B. hit
C. sanity
D. fight

27. The word spontaneous has four syllables. Which syllable should have the greatest force when it is spoken?

A. spon
B. ta
C. ne
D. ous

28. Which sentence describes a taciturn person?

A. She gossiped constantly.
B. The hermit rarely spoke.
C. The girls gathered for a good "talk" session.
D. The lawyer talked at great length.

29. If you wanted to use the word spontaneous as an adverb, which word would you use?

A. spontaneously
B. spontaneous
C. spontaneousness
D. spontaneity

30. If you looked up the word manifest in the dictionary and found a small n after it, the best choice of meaning would be

A. clear. "His anger was manifest to all present".
B. a list. "The captain was asked to show the ship's manifest".
C. to reveal. "His pain manifested itself on his face".
D. prove. "He manifested his courage by taking serious risks".

31. Which of the words listed below fits best in this sentence?
"He lost his job because he gave the company _____ information".

A. duplicate
B. fallacious
C. taciturn
D. spontaneous

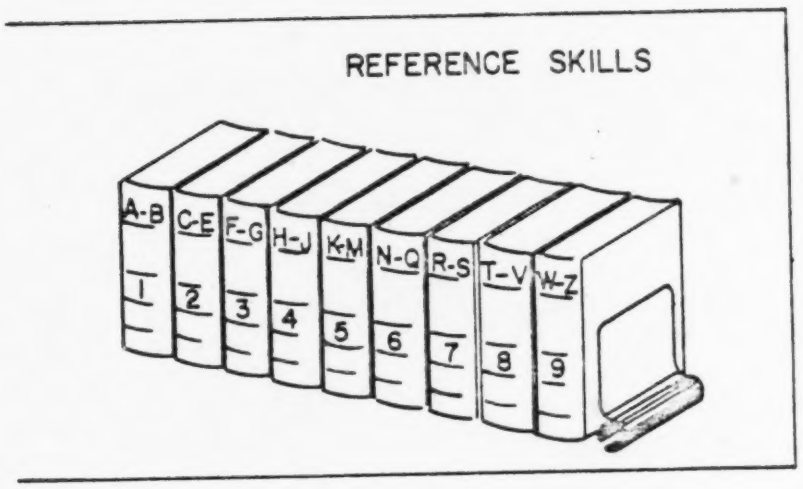
APPENDIX C

3. Follow-up Test -- Reference Skills

RESEARCH STUDY SKILLS TEST

J. HARLAN SHORES

MARY C. NEWLAND



Name _____
Last First

Grade _____ Teacher _____

Date _____ Sex _____ Age _____
Boy or Girl

When Is Your Birthday ? Month _____ Day ____

School _____ City _____

1970

Key

INSTRUCTIONS TO STUDENTS

This is a test of reference skills. These are the skills needed to use a Table of Contents, an Index, and to be able to select key words when using an encyclopedia or some other reference book.

Several answers are given for most questions, but only one answer is the best one. For these questions, you are to choose the <u>one</u> best answer and circle the letter in front of the answer you choose. There is no answer sheet for this test. You are to mark your answers in the test booklet.

The sample below shows you how to mark your answers.

<u>Sample Exercise</u>

If you were looking in an encyclopedia to find pictures of an oak, a maple, and an elm, in which volume might you find all of them?

A. The "O" volume
B. The "M" volume
(C.) The "T" volume
D. The "E" volume

Since an oak, a maple and an elm are all trees, it is most likely that you would find pictures of all of them under <u>trees</u> in the <u>T</u> volume. The letter <u>C</u> is circled to show that it is the best answer.

Read the directions for each part carefully. Try to answer every question, but don't spend too much time on any one question. When you finish one part, go right on to the next. You will have 45 minutes for this test.

<u>DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO</u>.

DIAGNOSTIC TEST
REFERENCE SKILLS

Directions: When using an encyclopedia, we look up the key word--the word which is most likely to tell about what we want. For each of the questions below, select the one best key word and make a circle around that letter.

1. If you wanted to find out how to play Roque, a game sometimes called "billiards with a mallet" which is something like croquet, where would you look?

   A. Billiards
   B. Mallet
   (C.) Roque
   D. Croquet

2. If you were looking in an encyclopedia to find pictures of collies, poodles, and terriers, in which volume might you find all of them?

   A. The "C" volume.
   B. The "P" volume.
   C. The "T" volume.
   (D.) The "D" volume.

3. If you wanted to know whether Venus is larger than Mercury or the Earth, what would you look up?

   A. Earth
   B. Venus
   (C.) Planets
   D. Mercury

4. If you wanted to get some information about cricket, an outdoor bat-and-ball game played as much in England as baseball is in the U.S., where would you look?

   A. Baseball
   (B.) Cricket
   C. England
   D. Bat-and-ball

5. If you were looking in an encyclopedia to find the difference between Holstein, Guernsey and Jersey cows, in which volume would you look?

   (A.) The "C" volume.
   B. The "H" volume.
   C. The "G" volume.
   D. The "J" volume.

6. If you wanted to know whether an aster is more like a zinnia or a daisy, what would you look up?

   A. aster
   (B.) flowers
   C. zinnia
   D. daisy

7. Where would you look to find information about the discus throw, an individual sport involving the throwing of a round wooden plate with a metal rim?

   A. Throw
   (B.) Discus
   C. Athlete
   D. Plate

8. Where would you look to find pictures of Persian, Manx, and Siamese cats?

   A. The "P" volume.
   B. The "M" volume.
   C. The "S" volume.
   (D.) The "C" volume.

9. If you wanted to know the main uses for cinnamon, ginger and pepper, where would you look?

   A. Cinnamon
   B. Ginger
   C. Pepper
   (D.) Spices

10. If you wanted to read about the diaphragm, the large muscle attached to the lower ribs which separates the chest from the abdomen, where would you look?

    (A.) diaphragm
    B. muscles
    C. ribs
    D. chest

11. If you were looking in an encyclopedia to find pictures of a rose, carnation and tulip, where might you find all of them?

    A. The "R" volume.
    B. The "C" volume.
    C. The "T" volume.
    (D.) The "F" volume.

12. If you wanted to know which flowers and vegetables grow from bulbs, corms and tubers, what would you look up?

    A. Bulb
    B. Corm
    (C.) Gardens
    D. Tubers

13. If you wanted some information about Bill Cosby, an American comedian and actor, where would you look?

    (A.) Cosby
    B. Bill
    C. Comedian
    D. Actor

14. If you wanted to find pictures of a Ford, a Dodge, and a Pontiac, in which volume of the encyclopedia would you look?

    (A.) The "A" volume.
    B. The "D" volume.
    C. The "F" volume.
    D. The "P" volume.

15. If you wanted to know something about wheat, rye and oats, where would be the best place to look to find all of them?

    (A.) Grain
    B. Wheat
    C. Rye
    D. Oats

GO ON TO PAGE 2

Directions: On the opposite page is a sample Table of Contents. Use this Table of Contents to answer questions 16 through 30.

16. On what page would you look to find something about the Treaty of Paris which ended the American Revolution?

A. Page 225
B. Page 97
(C) Page 105
D. Page 285

17. If you wanted some idea of what might happen in the U.S. in the 1980's, where would you find it?

A. Page 110
(B) Page 354
C. Page 338
D. Page 270

18. Where would you look to get some information about the spread of U.S. territory and influence abroad?

(A) Page 263
B. Page 256
C. Page 354
D. Page 237

19. Where might you find something about the assassination of President Kennedy?

A. Page 354
C. Page 338
C. Page 297
(D) Page 327

20. Where would you find information about the attempts of nations to get along with one another?

(A) Page 308
B Page 354
C. Page 270
D. Page 338

21. On what page would you look to find something about the slavery problem in the U.S.?

A Page 225
(B) Page 160
C. Page 156
D. Page 270

22. If you wanted some information about the Reconstruction Period just after the Civil War, where would you look?

A. Page 175
B. Page 245
(C) Page 225
D. Page 315

23. Where would you find something about the growth of settlements in the western U.S.?

A. Page 53
B. Page 156
C. Page 263
(D) Page 256

24. On what page could you find something about the battle of Bunker Hill during the American Revolution?

A. Page 285
(B) Page 75
C. Page 297
D. Page 189

25. Where might you find something about the Boston Tea Party which was one of the causes of the American Revolution?

(A) Page 58
B. Page 35
C. Page 110
D. Page 105

26. If you wanted to read about President Richard Nixon, where would you look?

A. Page 315
B. Page 345
C. Page 237
(D) Page 338

27. Where could you read about the House of Burgesses, a part of the government of the Virginia Colony?

A. Page 308
(B) Page 27
C. Page 156
D. Page 97

28. Where might you find something about Abraham Lincoln?

(A) Page 175
B. Page 135
C. Page 225
D. Page 160

29. July 4, 1776 was the date of the adoption of the Declaration of Independence. Where could you read more about this?

A. Page 308
B. Page 354
(C) Page 97
D. Page 110

30. If you wanted to read about the war in Vietnam, where would you look?

A. Page 297
(B) Page 345
C. Page 189
D. Page 75

GO ON TO PAGE 4

SAMPLE

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Directions: On the opposite page is a sample Index. Use this Index to answer questions 31 through 42.

31. If you were looking at a picture of an Indian elephant, what volume and page would you be using?

A. 9/80-81
B. 8/263
C. 8/265
D. 9/136

32. If you wanted some information about the temperatures in the polar regions, where would you look?

A. 2/287
B. 5/98
C. 2/42-61
D. 2/51

33. Where would you look to find something about the use of rats in a laboratory?

A. 1/215
B. 6/392
C. 9/136
D. 9/139

34. Where would you look to find a map of the state of New Hampshire?

A. 4/271
B. 4/274-275
C. 4/295
D. 18/9

35. Where would you find something about poisonous serpents?

A. 2/375
B. 6/159-169
C. 6/163
D. 6/392

36. Where might you find the length of the Senegal River located in French West Africa?

A. 2/42-61
B. 18/25
C. 11/214
D. 10/21

37. If you wanted to find pictures of stained glass windows in churches, where would you look?

A. 15/446
B. 17/451
C. 15/428
D. 11/147

38. Where would you get some information about examinations for driving licenses?

A. 12/58
B. 7/48-50
C. 6/265
D. 2/319-321

39. Where could you find something about the use of charcoal in sugar refining?

A. 4/341
B. 15/346
C. 15/26
D. 14/277

40. Where would you look to find a picture of candle dipping?

A. 6/51
B. 6/254
C. 1/365
D. 14/277

41. Where would you get some information about the founder of the Mormon religio Joseph Smith?

A. 15/465
B. 4/292
C. 17/443
D. 17/460-461

42. If you were asked to find a picture of the Notre Dame Cathedral, where would you look?

A. 17/451
B. 15/446
C. 11/147
D. 15/428

SAMPLE INDEX

Arctic region, 2/42-61; air routes 10/20, map 10/21; Byrd flight 5/173; explorers map and table 2/54-55; ice pack (illus.) 2/51, (map) 2/45; prehistoric period 9/13; temperature 5/98; terns (illus.) 2/287; tundra 15/346.

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Charcoal; use in making steel 15/26; use in sugar refining 4/341.

Church; Eastern Orthodox churches 17/443; Lutheran churches 17/451; Old North Church 4/292; windows (illus.) 15/446; See also Cathedral; Religion.

Elephant; African 9/80-81, illus. 8/265; Asian or Indian (illus.) 8/263; brain weight 4/113; general information (table) 8/267; intelligence 16/186; sleeping habits 16/171; see also Mammoth; Mastodon.

Examination; see Tests and testing.

New Hampshire 4/274-275; flag (illus.) 18/9; important information (table) 4/282-283; landmarks (map) 4/271; map 4/295; town meeting 7/277; voting requirements 7/289.

Polar region; see Antarctic region; Arctic region.

Rat; at birth 1/215; breeding rate 9/138; control of 9/139; disease carriers 6/392; kinds of (illus.) 9/136; laboratory use 9/139; shooting rats 9/368; see also Rodent.

Senegal River 11/214; length 18/25; map 11/ 213.

Serpent; see Sea serpent; Snake.

Smith, Joseph; Mormon religion 17/460-461; illus. 17/461.

Snake 6/159-169; bites, first aid for 6/166-167; eye 6/164; food 6/163; poisonous 2/375; shedding of skin 6/164; teeth 6/163; venom 2/375.

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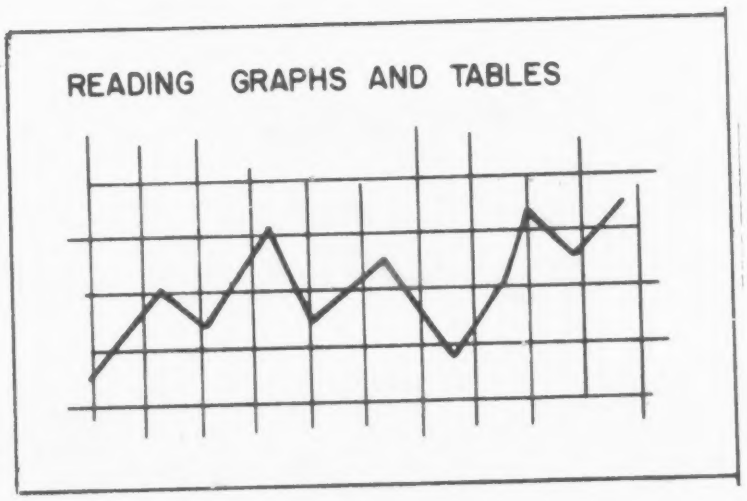
APPENDIX C

4. Follow-up Test -- Reading Graphs and Tables

RESEARCH STUDY SKILLS TEST

J. HARLAN SHORES

MARY C. NEWLAND



Name _____
Last First

Grade _____ Teacher _____

Date _____ Sex _____ Age _____
Boy or Girl

When Is Your Birthday ? Month _____ Day ____

School _____ City _____

1970
Key

INSTRUCTIONS TO STUDENTS

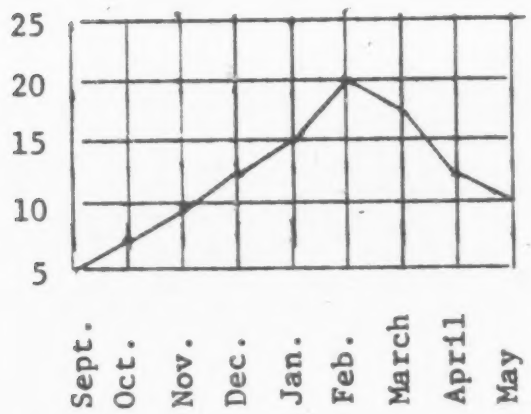
This is a test of your skill in reading line graphs, bar graphs, pictorial graphs, circle graphs and tables.

Several answers are given for most questions, but only one answer is the best one. For these questions, you are to choose the one best answer and circle the letter in front of the answer you choose. There is no answer sheet for this test. You are to mark your answers in the test booklet.

The sample below shows you how to mark your answers.

Sample Exercise

Number of Students Absent
During the School Year



During which month of the year were most students absent?

A. Dec.
B. Jan.
(C.) Feb.
D. March

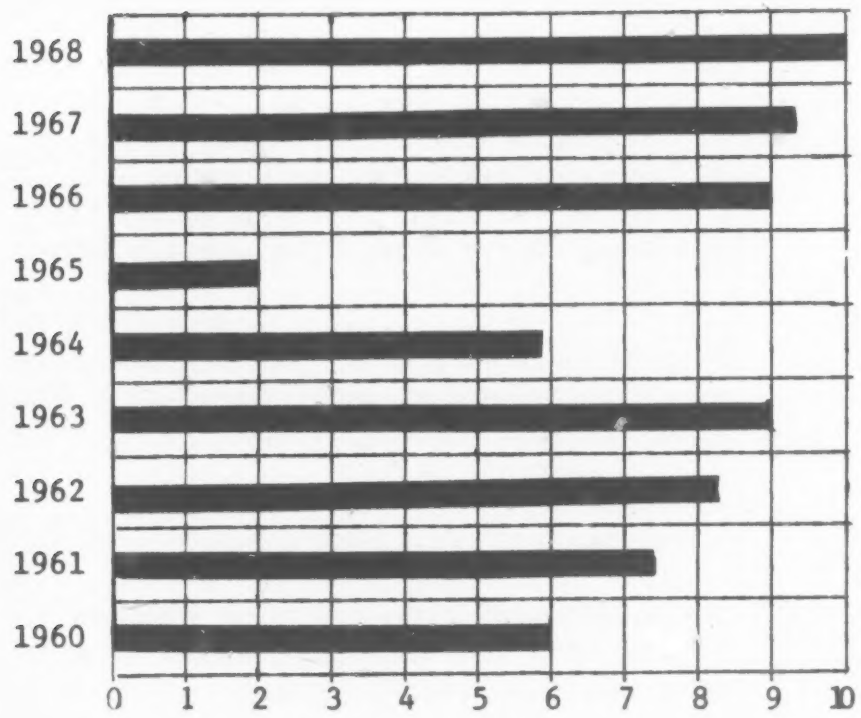
The line reaches the highest point in February, opposite the number 15, showing that more students were absent in February than in any other month. A circle is drawn around the letter C to show that this is the best answer.

Read the directions for each part carefully. Try to answer every question, but don't spend too much time on any one question. When you finish one part, go right on to the next. You will have 45 minutes for this test.

DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.

DIAGNOSTIC TEST
READING GRAPHS AND TABLES

Visitors to Evergreen Park — 1960-1968



1. Since 1965, the number of visitors to Evergreen Park has been

   A. staying the same.
   B. growing smaller.
   C. going up one year and down the next.
   (D) growing larger.

2. From 1960 to 1963, the number of visitors to Evergreen Park had been

   A. staying the same.
   B. growing smaller.
   C. going up one year and down the next.
   (D) growing larger.

3. In what years was the number of visitors the highest and lowest?

   A. Highest in 1968 and lowest in 1960.
   B. Highest in 1963 and lowest in 1964.
   (C) Highest in 1968 and lowest in 1965.
   D. Highest in 1967 and lowest in 1965.

4. In which two years were the same number of people visiting the park?

   A. 1968 and 1960.
   (B) 1966 and 1963.
   C. 1961 and 1962.
   D. 1960 and 1965.

5. During one year, when new roads were made, the park was closed most of the year. From the graph, which year do you think this was?

   A. 1960
   B. 1964
   (C) 1965
   D. 1961

6. About how many people visited the park in 1968?

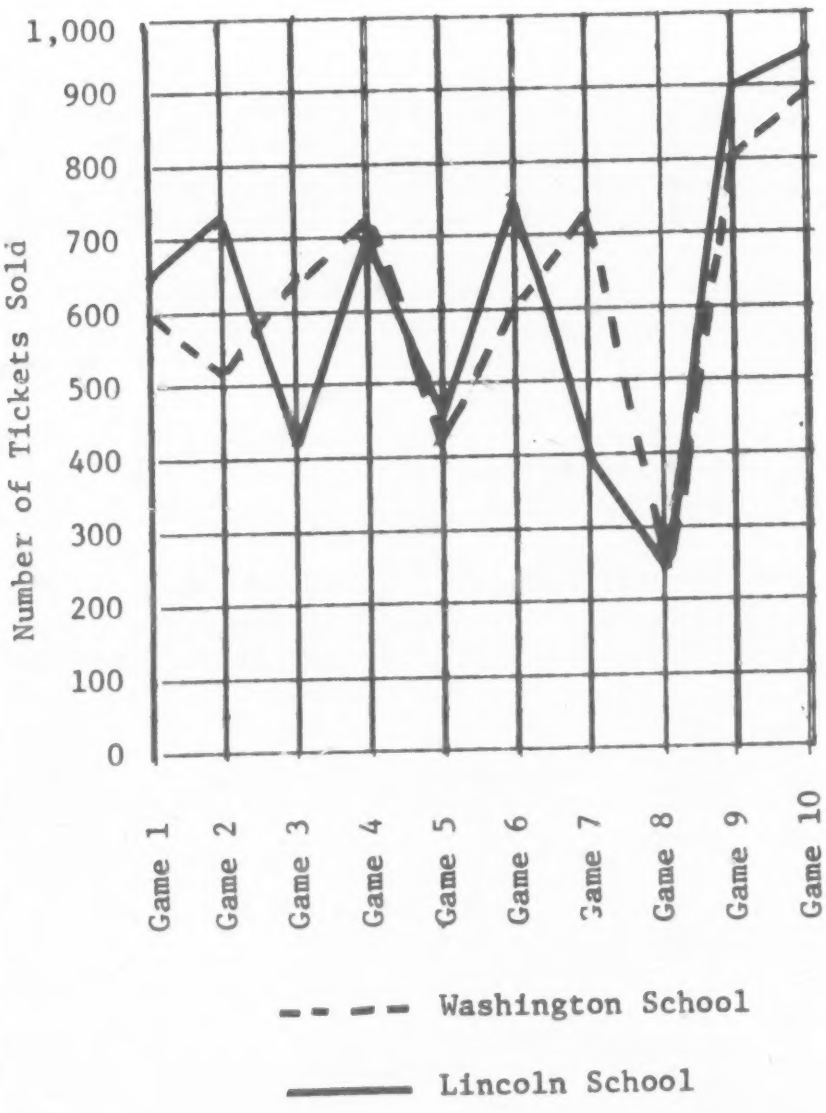
   A. 10
   B. 100,000
   C. 100
   (D) 10,000

7. The second largest number of people visited the park in

   A. 1966
   B. 1963
   (C) 1967
   D. 1968

GO ON TO PAGE 2

NUMBER OF TICKETS SOLD TO TEN FOOTBALL GAMES BY LINCOLN AND WASHINGTON SCHOOLS



8. For which game did both schools sell the same number of tickets?

A. Game 4
B. Game 5
C. Game 8
D. Game 9

9. For which game did both schools sell the most tickets?

A. Game 2
B. Game 9
C. Game 6
D. Game 10

10. For which game did both schools sell the least number of tickets?

A. Game 3
B. Game 5
C. Game 8
D. Game 2

11. The number of tickets sold by both schools

A. remained the same for each game.
B. became larger for each game.
C. became smaller for each game.
D. went up and down from one game to the next.

12. Both schools played an out-of-town game at schools located quite far away. Which game was this likely to be?

A. Game 1
B. Game 3
C. Game 6
D. Game 8

13. The Homecoming game for both schools always drew the largest crowds. Which game was this likely to be?

A. Game 1
B. Game 9
C. Game 10
D. Game 6

14. For one game, ticket sales for Lincoln School were higher than the week before, but for the same week ticket sales for Washington school were lower than the week before. Which game was this?

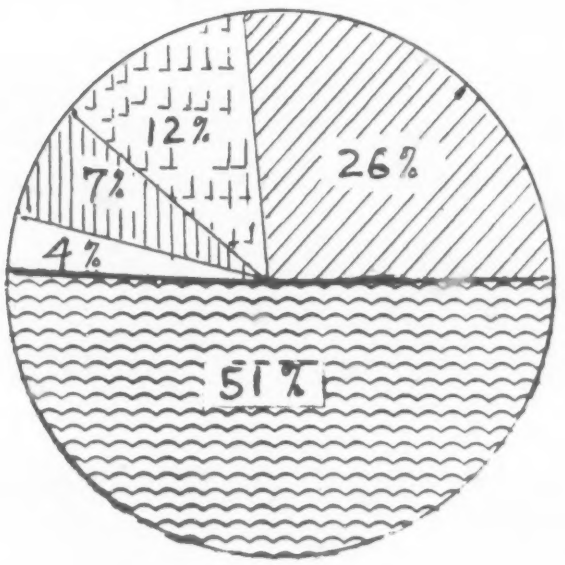
A. Game 9
B. Game 2
C. Game 10
D. Game 6

15. Which school had a winning season?

A. Lincoln School
B. Both Schools
C. Washington School
D. Can't tell from the graph

GO ON TO PAGE 3

ATHLETES IN VARIOUS SPORTS
IN PARKVIEW HIGH SCHOOL



FOOTBALL BASEBALL

BASKETBALL WRESTLING

OTHER SPORTS

16. More than 1/2 of the athletes in Parkview High School were taking part in

A. basketball
(B.) football
C. baseball and wrestling
D. basketball and wrestling

17. About 1/4 of the athletes in Parkview High School were taking part in

(A.) basketball
B. football
C. baseball
D. baseball and wrestling

18. The percentage of athletes taking part in swimming and tennis in Parkview High School was

A. More than 25%
B. More than 10%
(C.) Less than 5%
D. Between 5% and 10%

19. The most popular sport of the athletes in Parkview High School was

A. tennis
B. wrestling
C. basketball
(D.) football

20. The second most popular sport of the athletes in Parkview High School was

A. football
(B.) basketball
C. baseball
D. wrestling

21. There were fewer athletes who played basketball than

A. baseball
B. tennis
(C.) football
D. handball

22. More athletes took part in wrestling than in

A. basketball
B. football
C. baseball
(D.) tennis

23. More than 3/4 of the athletes took part in

A. basketball and baseball
(B.) basketball and football
C. football and baseball
D. football and wrestling

GO ON TO PAGE 4

NUMBER OF PARENTS ATTENDING PTA MEETINGS FROM CLASSROOMS DURING THE YEAR

Grades	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	Total
1	35	30	23	30	20	22	21	24	25	230
2	30	24	17	25	15	18	17	22	20	188
3	25	15	12	20	13	14	12	15	16	142
4	27	17	14	22	15	16	14	17	18	160
5	20	10	8	15	10	11	9	14	16	113
6	15	9	7	10	9	11	8	9	10	88
7	18	16	13	15	12	10	8	10	12	114
8	14	9	7	10	8	7	8	9	10	82
9	10	4	3	8	7	6	6	7	7	57
Monthly Total	194	134	104	155	109	115	102	127	134	1174

24. The largest attendance at PTA meetings was during the month of

A. May
B. December
(C.) September
D. October

25. The smallest attendance at PTA meetings was during the month of

(A.) March
B. November
C. February
D. January

26. Attendance was the same during the months of

A. September and May
B. March and November
C. April and May
(D.) October and May

27. The grade receiving the prize for the best attendance record for the year was

A. Seventh
(B.) First
C. Second
D. Fourth

28. The grade with the smallest number of parents attending PTA during the year was

A. Sixth
B. Eighth
(C.) Ninth
D. Fifth

29. The grade receiving second prize for the next to highest attendance record was

A. First
B. Seventh
(C.) Second
D. Fourth

30. The two months with the lowest attendance were

A. January and April
B. November and January
C. January and March
(D.) November and March

31. The two months with the highest attendance were

A. September and May
(B.) September and December
C. May and December
D. September and October

32. The two grades with the highest attendance were

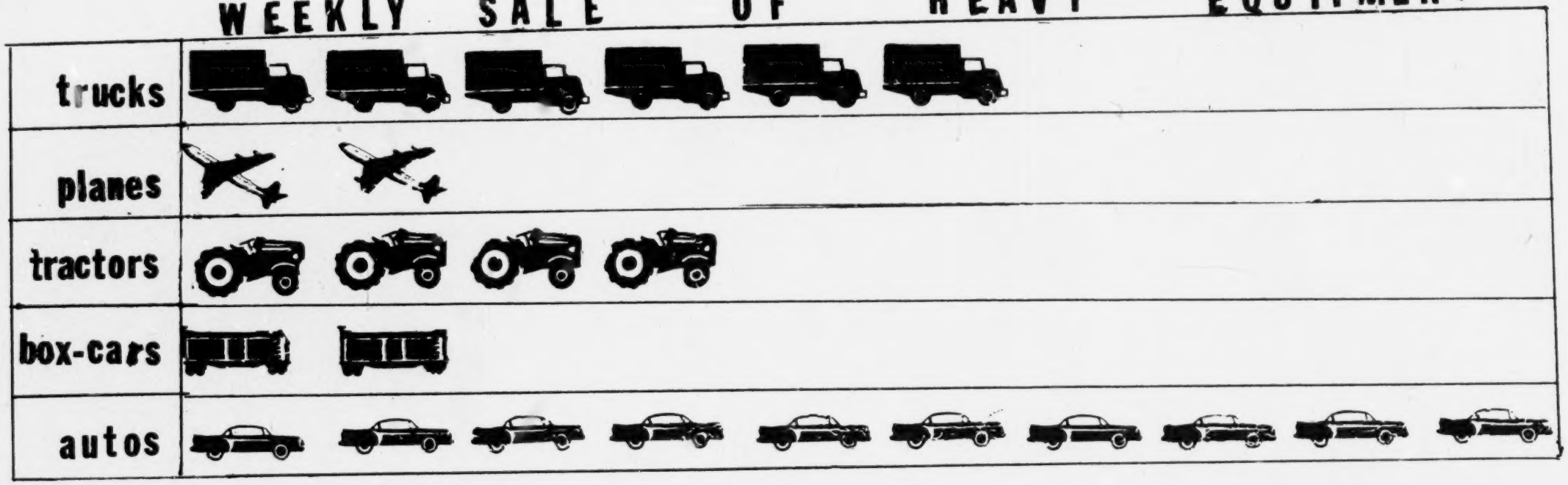
A. Second and Fourth
B. Third and Fourth
(C.) First and Secon
D. First and Fourth

33. The two grades with the lowest attendance were

A. Ninth and Seventh
B. Ninth and Sixth
C. Eighth and Sixt
(D.) Eighth and Nint

GO ON TO PAGE 5

WEEKLY SALE OF HEAVY EQUIPMENT



34. Which pieces of equipment added together sold more than did autos during the week?

A. Planes, box-cars, and trucks.
(B.) Trucks, planes and tractors.
C. Tractors and box-cars.
D. Tractors, planes, and box-cars.

35. Of which two pieces of equipment were the same number sold during the week?

(A.) Planes and box-cars.
B. Planes and tractors.
C. Trucks and tractors.
D. Trucks and autos.

36. Which two pieces of equipment sold twice as well as did trucks?

A. Planes and box-cars.
B. Tractors and box-cars.
(C.) Autos and planes.
D. Tractors and planes.

37. Of which piece of equpiment were only half as many sold as tractors?

A. Autos
B. Trucks
(C.) Planes
D. None

38. Exactly half of all the equipment sold during the week was made up of

(A.) Autos and planes.
B. Autos and tractors.
C. Tractors and box-cars.
D. Autos and trucks.

39. The salesman sold as many autos as he did

A. tractors and planes.
B. tractors and box-cars.
(C.) tractors and trucks.
D. planes and box-cars.

40. How many more trucks did the salesman sell than he he did tractors?

A. One
(B.) Two
C. Three
D. Four

41. How many more autos did the salesman sell than he did trucks?

A. Two
B. Three
(C.) Four
D. Five

APPENDIX C

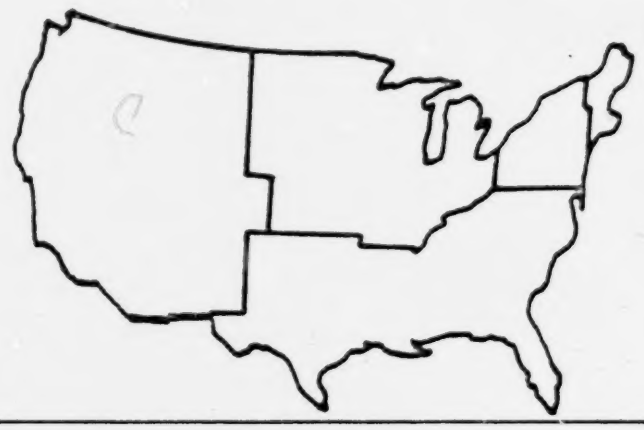
5. Follow-up Test -- Map Reading Skills

RESEARCH STUDY SKILLS TEST

J. HARLAN SHORES

MARY C. NEWLAND

MAP READING SKILLS



Name _____
Last First

Grade _____ Teacher _____

Date _____ Sex _____ Age _____
Boy or Girl

When Is Your Birthday ? Month _____ Day ____

School _____ City _____

1970

Key

INSTRUCTIONS TO STUDENTS

This is a test of your ability to read maps--physical, political, city, population, elevation, and rainfall.

Several answers are given for most questions, but only one answer is the best one. For these questions, you are to choose the one best answer and circle the letter in front of the answer you choose. There is no answer sheet for this test. You are to mark your answers in the test booklet.

The sample below shows you how to mark your answers.

Sample Exercise

The northeastern part of the map on the left is shown by number

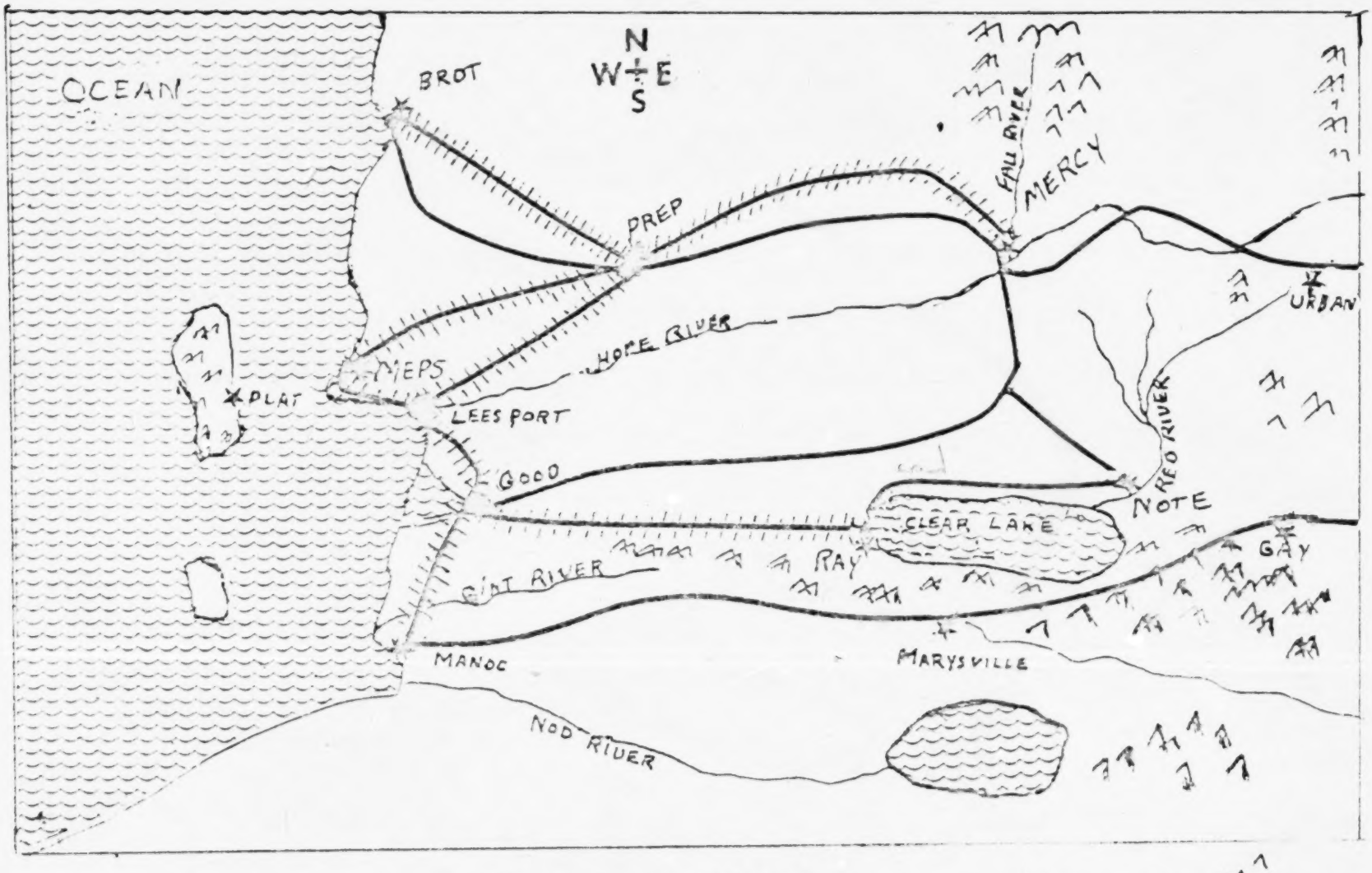
(A.) 1
B. 3
C. 4
D. 5

The letter N above the map shows that North is at the top of the map. This means that East must be to the right of the map. The letter A is circled to show that it is the best answer.

Read the directions for each part carefully. Try to answer every question, but don't spend too much time on any one question. When you finish one part, go right on to the next. You will have 45 minutes for this test.

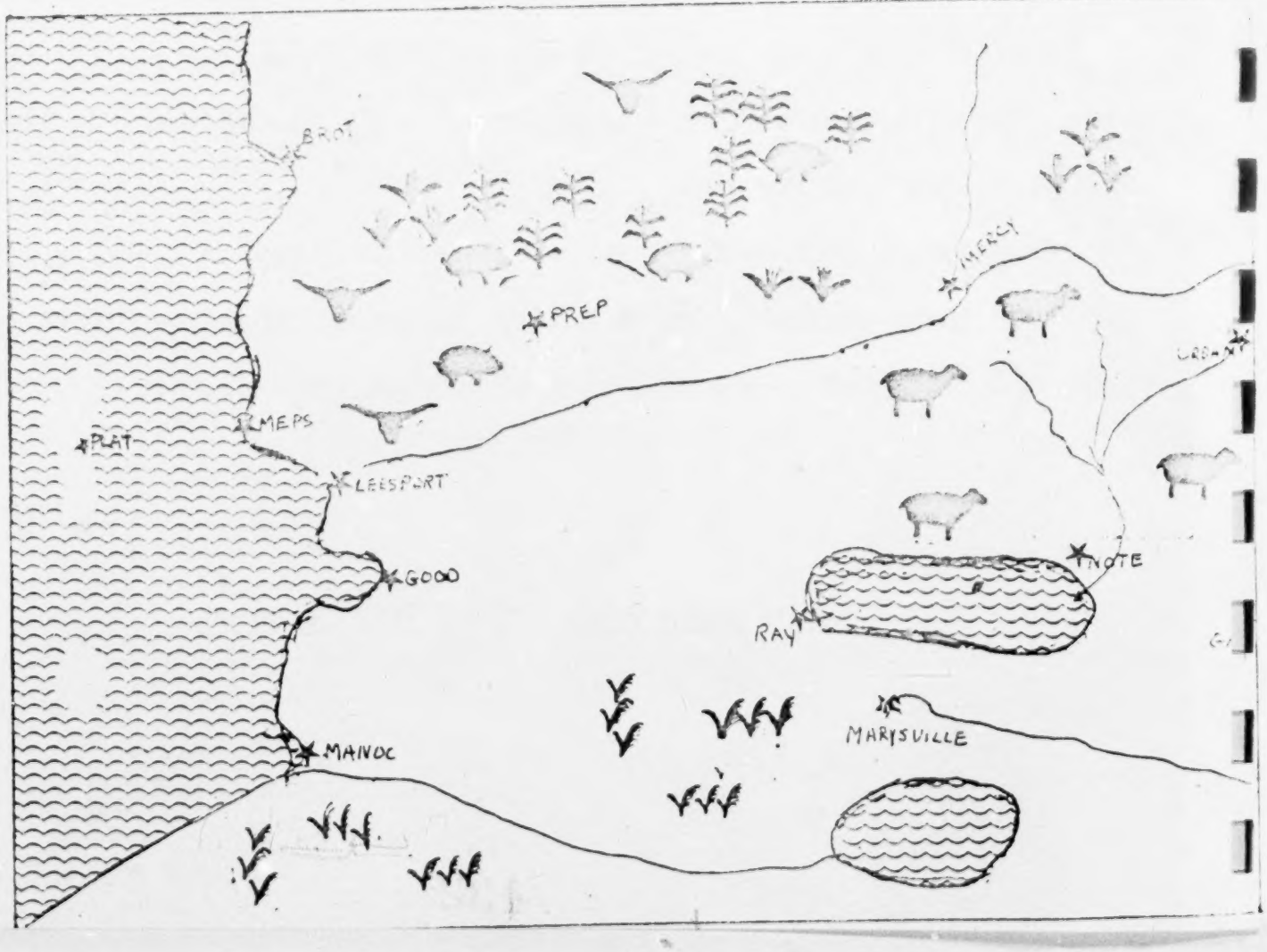
DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.

PHYSICAL POLITICAL MAP



Main Highways —— Railroads ||||||||| Rivers ~~~ Mountains

PRODUCT MAP



LIVESTOCK
- HOGS
- CATTLE
- SHEEP

GRAIN CROPS
- CORN
- OATS
- WHEAT

DIAGNOSTIC TEST
MAP READING SKILLS

On the opposite page are two maps showing a make believe state. The map at the top is a physical-political map showing the oceans, rivers, mountains, cities, railroads and highways. The map below this one shows the livestock and grain products of this same state. Use these two maps to answer the questions below.

1. Ships leaving the harbor at Leesport are likely to be loaded with

   A. wool.
   (B.) pork and beef.
   C. wheat.
   D. tobacco.

2. If you were traveling from Good to Brot by car, the best route would be by way of

   A. Leesport and Meps.
   (B.) Mercy and Prep.
   C. Ray and Note.
   D. Leesport and Plat.

3. To go to Clear Lake from Manoc, you would go

   A. to Note by car.
   B. by boat up the Gint River.
   (C.) to Good and Ray by railroad.
   D. to Marysville by car.

4. In this area cattle are found most often with

   A. wheat.
   B. cotton.
   (C.) hogs.
   D. sheep.

5. On the railroad between Good and Ray one would see many

   A. sheep.
   B. rivers.
   C. cattle.
   (D.) mountains.

6. The location of Plat is

   A. east of Meps.
   B. south of Manoc.
   C. east of Mercy.
   (D.) northwest of Good.

7. Which highway is likely to go through a tunnel in the mountains?

   (A.) From Gay to Marysville.
   B. From Mercy to Urban.
   C. From Manoc to Marysville.
   D. From Good to Ray.

8. More products would probably be carried on the

   A. Nod River
   (B.) Hope River
   C. Red River
   D. Gint River

9. In which city do two rivers meet?

   A. Good
   B. Leesport
   (C.) Mercy
   D. Note

10. On which trip might you be able to see mountains all the way?

   (A.) Gay to Marysville.
   B. Good to Manoc.
   C. Mercy to Urban.
   D. Note to Good.

11. If you were going from Brot to Urban, you would make a left turn

   A. at Prep.
   B. just east of Mercy.
   (C.) just after crossing the Hope River.
   D. at Meps.

12. To go from Mercy to Plat, the fastest route probably would be by

   A. highway to Meps and then by boat.
   B. highway to Prep, then railroad to Leesport and then by boat.
   C. highway to Brot and then by boat.
   (D.) railroad to Prep and Meps and then by boat.

13. Which city is farthest north?

   A. Manoc.
   B. Mercy.
   (C.) Brot.
   D. Meps.

14. Which railroad trip would be the longest?

   A. From Good to Ray.
   (B.) From Manoc to Brot.
   C. From Meps to Mercy.
   D. From Good to Meps.

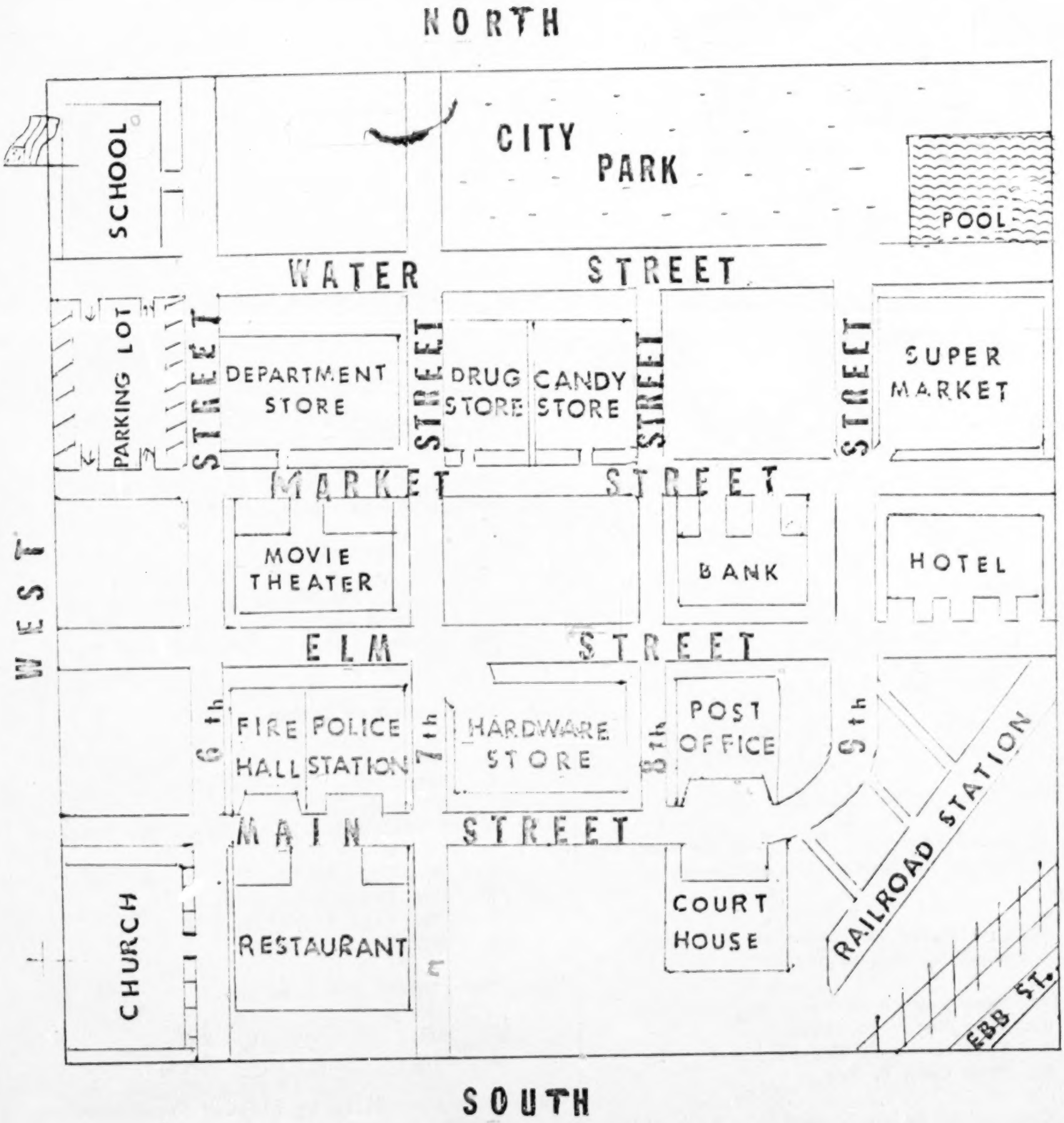
15. The longest river is the

   A. Nod.
   B. Gint.
   C. Red.
   (D.) Hope.

16. When travelling by highway from Mercy to Urban, one would cross the Hope River

   A. one time.
   B. two times.
   (C.) three times.
   D. four times

GO ON TO PAGE 5


NORTH
SCHOOL
CITY PARK
POOL
WATER STREET
PARKING LOT
6th STREET
DEPARTMENT STORE
7th STREET
DRUG STORE
CANDY STORE
8th STREET
9th STREET
SUPER MARKET
MARKET STREET
MOVIE THEATER
BANK
HOTEL
WEST
EAST
ELM STREET
6th
FIRE HALL
POLICE STATION
7th
HARDWARE STORE
8th
POST OFFICE
9th
MAIN STREET
CHURCH
RESTAURANT
COURT HOUSE
RAILROAD STATION
EBB ST.
SOUTH

On the opposite page is a picture map showing a part of a town. The streets and important buildings are named. Use this map to answer questions 17 to 28.

17. What building is on Elm Street between 7th and 8th Streets?

A. Fire and Police Station
B. Post Office
(C.) Hardware Store
D. Restaurant

18. What building is on the corner of 8th and Main Streets?

A. Police Station
(B.) Post Office
C. Candy Store
D. Bank

19. What building is on the south side of Market Street between 6th and 7th Streets?

A. Department Store
(B.) Movie Theater
C. Bank
D. Drug and Candy Store

20. Mrs. Jones and Mrs. Smith left the Supermarket together. Mrs. Jones was going to the Hardware Store and Mrs. Smith was going to the Drug Store. Which has the greater distance to walk?

A. Mrs. Smith
(B.) Mrs. Jones
C. Neither--same distance
D. One cannot tell from map

21. Joe lives on the corner of 9th and Elm Streets and Sally lives on the corner of 6th and Main Streets. Which lives closer to school?

A. Joe
(B.) Sally
C. Neither--same distance
D. One cannot tell from map

22. Mrs. Jones and Mrs. Smith both parked their cars in the parking lot. Mrs. Jones was going to the school and Mrs. Smith was going to the Bank. Which had the greater distance to walk?

A. Mrs. Jones
(B.) Mrs. Smith
C. Neither--same distance
D. One cannot tell from map

23. Joe left the school to walk to Church. How many blocks did he have to walk?

A. Two
B. Three
(C.) Four
D. Five

24. Which is the correct location of the Post Office?

(A.) On the North side of Main between 8th and 9th.
B. On the South side of Main between 8th and 9th.
C. On the South side of Elm between 7th and 8th.
D. On the North side of Elm between 8th and 9th.

25. Jane and Mary left the Post Office together. Jane was going to Church and Mary was going to School. Which had the shorter distance to walk?

A. Mary
(B.) Jane
C. Neither--same distance
D. One cannot tell from map.

26. What building is on Main Street between 6th and 7th Streets?

A. Church
B. Court House
C. Hardware Store
(D.) Restaurant

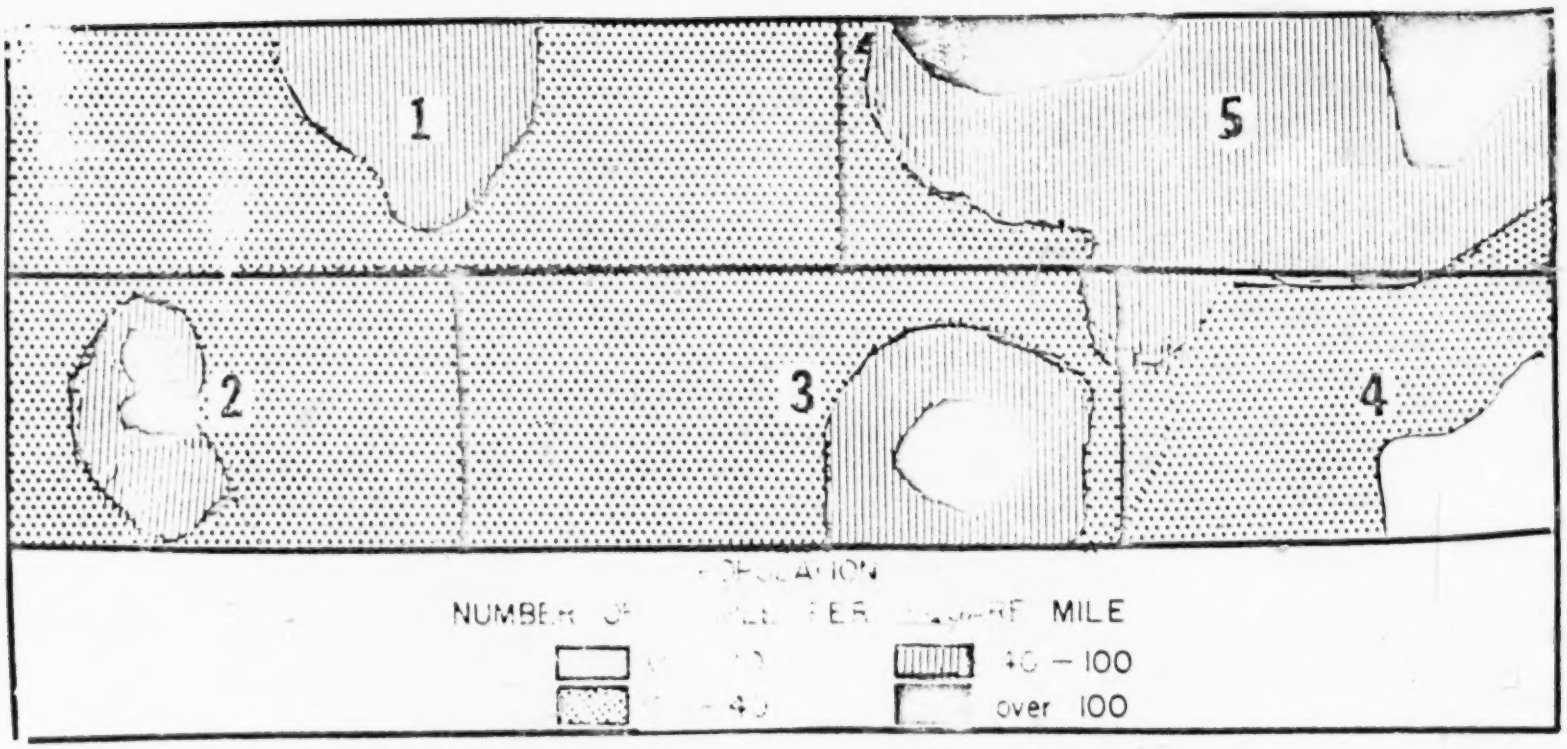
27. Joe lives on the corner of 9th and Elm Streets. How far does he have to walk to go swimming?

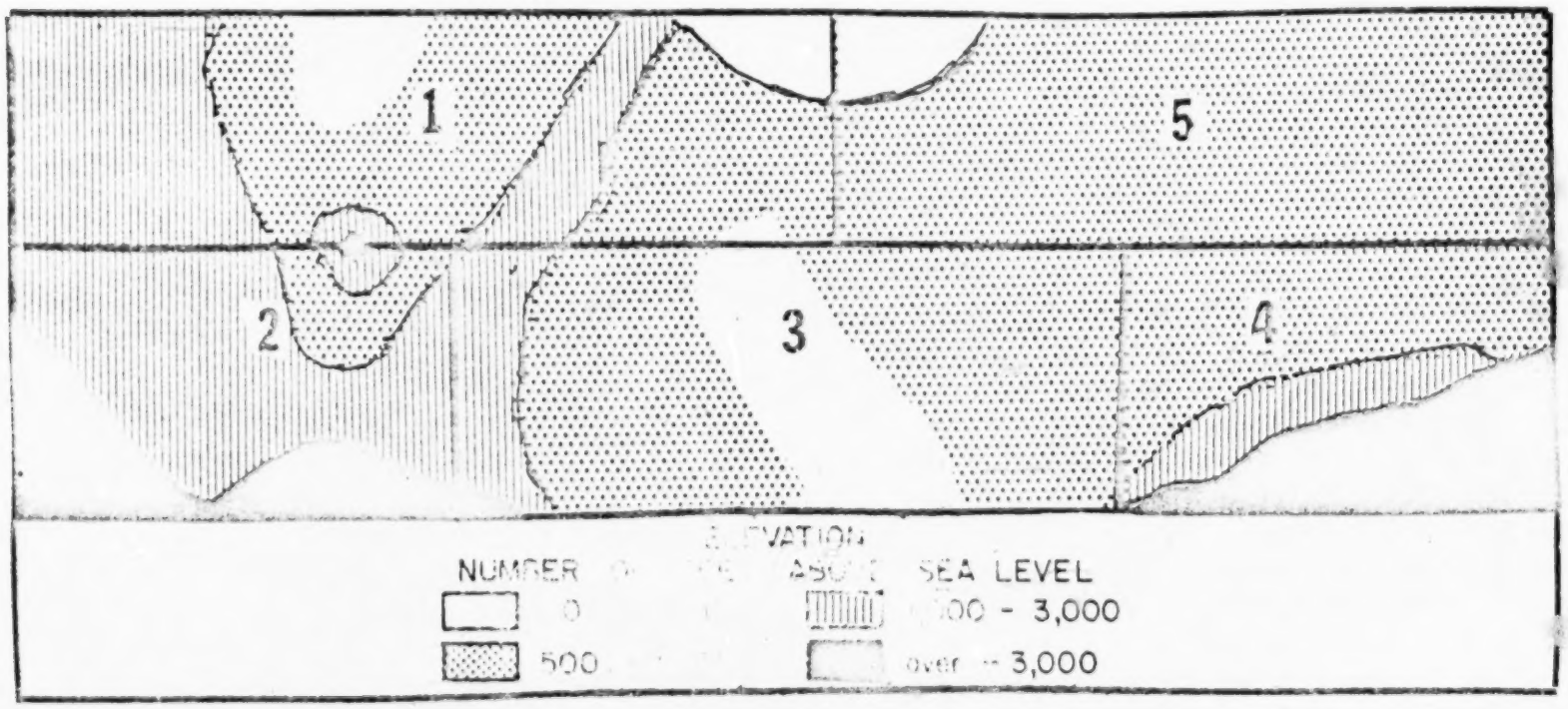
A. One block
(B.) Two blocks
C. Three blocks
D. Four blocks

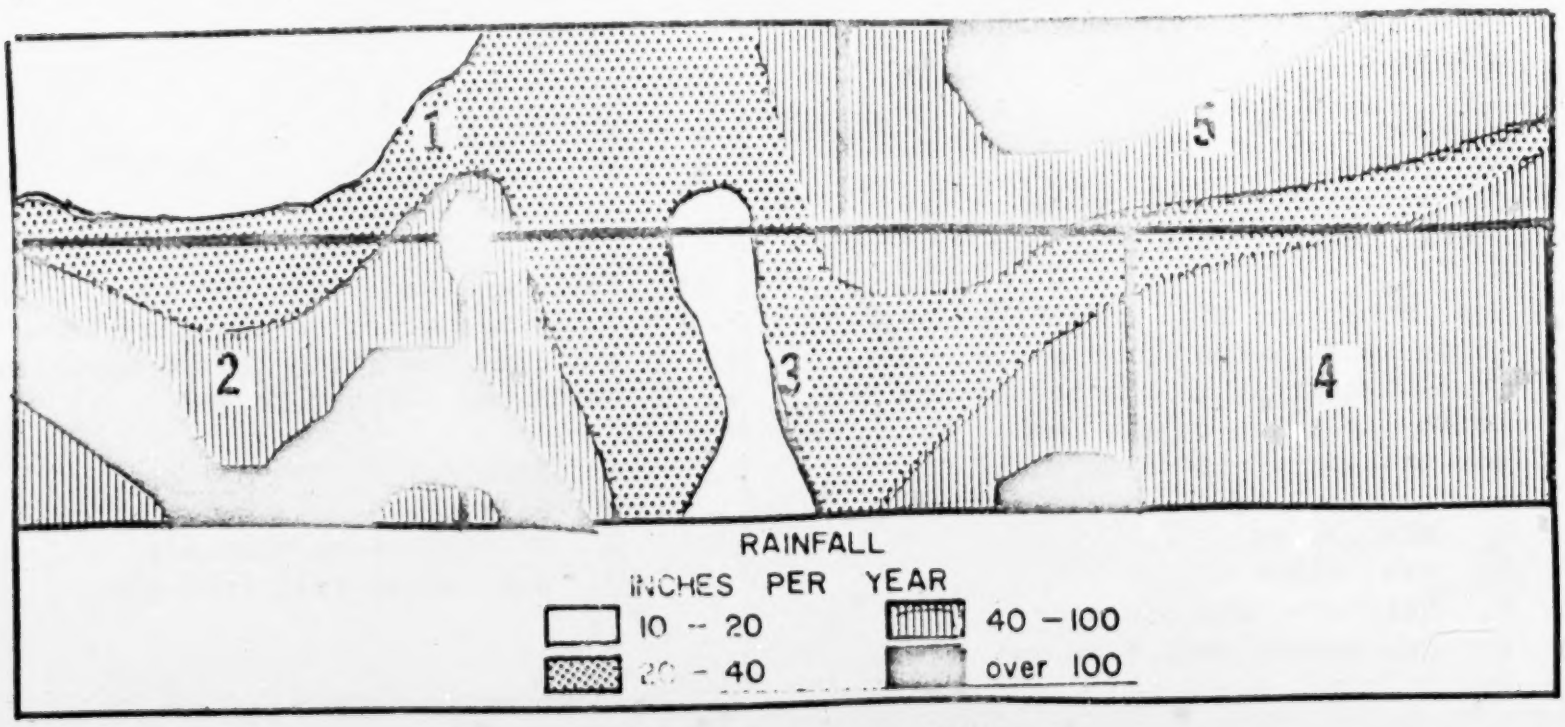
28. Sally and Jane left the hotel together. Sally was going to the City Park and Jane was going to the airport. Which had farther to go?

A. Jane
B. Sally
C. Neither--same distance
(D.) One cannot tell from map

GO ON TO PAGE 7


1
5
2
3
4
NUMBER OF PEOPLE PER SQUARE MILE
40 – 100
over 100


1
5
2
3
4
SEA LEVEL
500 - 3,000
over 3,000


1
5
2
3
4
RAINFALL
INCHES PER YEAR
10 – 20
20 – 40
40 – 100
over 100

There are three maps on the opposite page. All three show the same place. The numbers 1, 2, 3, 4 and 5 show the different states. The top map is a population map (number of people living in the areas); the middle map is an elevation map (high and low places in the areas); and the bottom map is a rainfall map (amount of rain in the areas). Use these maps to answer questions 29-40 below.

29. The two largest cities are in

A. State 1
B. State 2
C. State 5
D. State 3

30. The largest desert region is in

A. State 1
B. State 2
C. State 4
D. State 5

31. The state with the most rainfall probably is

A. State 1
B. State 4
C. State 3
D. State 2

32. The city with the most rainfall is in

A. State 4
B. State 5
C. State 2
D. State 3

33. Probably the most people live in

A. State 1
B. State 3
C. State 5
D. State 2

34. The most mountains are in

A. States 1 and 5.
B. States 2 and 5.
C. States 4 and 2.
D. States 3 and 4.

35. The state with no high mountains is

A. State 5
B. State 1
C. State 3
D. State 2

36. In State 5 there is no place where it rains less than

A. thirty inches per year.
B. twenty inches per year.
C. sixty inches per year.
D. forty inches per year.

37. In which two states are there no more than 100 people per square mile in any part of the state?

A. States 2 and 5
B. States 1 and 4
C. States 1 and 2
D. States 3 and 4

38. The fewest people live in the mountains of

A. State 2
B. State 5
C. State 3
D. State 4

39. The place where States 1 and 5 join State 3

A. has more than 40 inches of rainfall each year.
B. is one of the highest places on these maps.
C. has a population of more than 40 people per square mile.
D. is less than 500 feet above sea level.

40. The place where States 2 and 3 join State 1

A. is over 3,000 feet above sea level.
B. has over 60 inches of rainfall per year.
C. is a desert.
D. has a population of more than 40 people per square mile.

APPENDIX C

6. Summary Statistics on Follow-up Tests

APPENDIX C ITEM 6

SUMMARY STATISTICS -- FOLLOW UP TESTS

Test	Grade	No. of Items	No. of Cases	M	S.D.
Library	4	44	28	25.5	5.1
Dictionary	4	31	28	17.8	5.0
Reference	4	42	26	28.9	9.0
Graphs & Tables	4	41	27	29.3	6.8
Map Reading	4	40	33	23.2	6.0
Library	5	44	28	27.4	5.5
Dictionary	5	31	27	19.7	5.3
Reference	5	42	25	33.0	8.0
Graphs & Tables	5	41	24	30.2	7.3
Map Reading	5	40	27	27.2	4.9
Library	6	44	28	27.0	6.4
Dictionary	6	31	30	23.9	5.0
Reference	6	42	29	36.0	6.2
Graphs & Tables	6	41	29	36.6	2.7
Map Reading	6	40	26	24.5	6.6
Library	4,5,6	44	84	26.6	5.7
Dictionary	4,5,6	31	85	20.6	6.5
Reference	4,5,6	42	80	32.7	8.1
Graphs & Tables	4,5,6	41	80	32.2	7.6
Map Reading	4,5,6	40	86	23.9	6.1

APPENDIX C

7. Original and Follow-up Scores for Retested Students

Library Skills
Dictionary Skills
Reference Skills
Reading Graphs and Tables
Map Reading Skills

APPENDIX C -- ITEM 7

ORIGINAL AND FOLLOW-UP SCORES FOR RETESTED STUDENTS *

Case No.	Test	Grade	Original Score	Original Per. Rank	Follow-Up Score	Follow-Up Per. Rank
1	Library	4	2 of 10	7	17 of 44	8
2	Library	4	2 of 10	7	12 of 44	1
3	Library	4	2 of 10	7	14 of 44	2
4	Library	4	2 of 10	7	15 of 44	3
5	Library	4	2 of 10	7	23 of 44	45
6	Library	5	3 of 10	19	30 of 44	81
7	Library	5	3 of 10	19	27 of 44	69
8	Library	5	3 of 10	19	19 of 44	20
9	Library	5	3 of 10	19	18 of 44	12
10	Library	5	3 of 10	19	28 of 44	75
11	Library	5	2 of 10	7	20 of 44	28
12	Library	5	3 of 10	19	25 of 44	55
13	Library	5	2 of 10	7	17 of 44	8
14	Library	5	3 of 10	19	20 of 44	28
15	Library	5	2 of 10	7	20 of 44	28
16	Library	5	2 of 10	7	15 of 44	3
17	Library	5	2 of 10	7	23 of 44	45
18	Library	6	3 of 10	19	20 of 44	28
19	Library	6	4 of 10	36	29 of 44	78
20	Library	6	3 of 10	19	17 of 44	8
21	Library	6	3 of 10	19	31 of 44	85
22	Library	6	4 of 10	36	20 of 44	28
23	Library	6	4 of 10	36	26 of 44	61
24	Library	6	4 of 10	36	22 of 44	36
25	Library	6	3 of 10	19	24 of 44	50
26	Library	6	4 of 10	36	27 of 44	69
27	Library	6	3 of 10	19	22 of 44	36
28	Library	6	4 of 10	36	22 of 44	36
29	Library	6	1 of 10	2	18 of 44	12
30	Library	6	2 of 10	7	18 of 44	12
31	Library	6	4 of 10	36	25 of 44	55
32	Library	6	4 of 10	36	28 of 44	75
33	Library	6	2 of 10	7	24 of 44	50
34	Library	6	3 of 10	19	20 of 44	28
35	Library	6	4 of 10	36	30 of 44	81
36	Library	6	3 of 10	19	23 of 44	45
37	Library	6	3 of 10	19	21 of 44	32
38	Library	6	4 of 10	36	20 of 44	28
39	Library	6	3 of 10	19	23 of 44	45
40	Library	6	3 of 10	19	19 of 44	20
41	Library	6	4 of 10	36	23 of 44	45
42	Library	6	4 of 10	36	19 of 44	20
43	Library	6	4 of 10	36	21 of 44	32

* See Appendix B, Item 8 and Appendix C, Item 6 for summary statistics for original and follow-up tests.

APPENDIX C ITEM 7

ORIGINAL AND FOLLOW-UP SCORES FOR RETESTED STUDENTS *

Case No.	Test	Grade	Original Score	Original Per. Rank	Follow-Up Score	Follow-Up Per. Rank
1	Dictionary	4	2 of 8	17	11 of 31	6
2	Dictionary	4	2 of 8	17	12 of 31	9
3	Dictionary	4	2 of 8	17	16 of 31	30
4	Dictionary	4	2 of 8	17	20 of 31	53
5	Dictionary	4	2 of 8	17	12 of 31	9
6	Dictionary	4	2 of 8	17	16 of 31	30
7	Dictionary	4	2 of 8	17	16 of 31	30
8	Dictionary	4	2 of 8	17	11 of 31	6
9	Dictionary	4	2 of 8	17	19 of 31	48
10	Dictionary	4	3 of 8	34	23 of 31	71
11	Dictionary	4	2 of 8	17	22 of 31	66
12	Dictionary	5	2 of 8	17	16 of 31	30
13	Dictionary	5	2 of 8	17	14 of 31	18
14	Dictionary	5	2 of 8	17	18 of 31	42
15	Dictionary	5	3 of 8	34	22 of 31	66
16	Dictionary	5	1 of 8	7	22 of 31	66
17	Dictionary	5	2 of 8	17	27 of 31	93
18	Dictionary	5	2 of 8	17	20 of 31	53
19	Dictionary	5	1 of 8	7	14 of 31	18
20	Dictionary	5	2 of 8	17	15 of 31	25
21	Dictionary	5	1 of 8	7	23 of 31	71
22	Dictionary	5	1 of 8	7	18 of 31	42
23	Dictionary	5	1 of 8	7	15 of 31	25
24	Dictionary	5	3 of 8	34	14 of 31	18
25**	Dictionary	5	5 of 8	74	20 of 31	53
26	Dictionary	5	1 of 8	7	20 of 31	53
27	Dictionary	5	2 of 8	17	22 of 31	66
28	Dictionary	5	2 of 8	17	21 of 31	59
29	Dictionary	5	2 of 8	17	17 of 31	34
30	Dictionary	5	1 of 8	7	12 of 31	9
31	Dictionary	6	2 of 8	17	21 of 31	59
32	Dictionary	6	2 of 8	17	24 of 31	80
33	Dictionary	6	2 of 8	17	26 of 31	87
34	Dictionary	6	2 of 8	17	19 of 31	48
35	Dictionary	6	2 of 8	17	24 of 31	80

* See Appendix B, Item 8 and Appendix C, Item 6 for summary statistics for original and follow-up tests.

** Case No. 25 did not meet the criteria for retesting, and was included by error.

APPENDIX C ITEM 7

ORIGINAL AND FOLLOW-UP SCORES FOR RETESTED STUDENTS *

Case No.	Test	Grade	Original Score	Original Per. Rank	Follow-Up Score	Follow-Up Per. Rank
1	Reference	4	1 of 10	6	20 of 42	15
2	Reference	4	1 of 10	6	14 of 42	8
3	Reference	4	1 of 10	6	34 of 42	52
4	Reference	4	1 of 10	6	10 of 42	2
5	Reference	4	1 of 10	6	16 of 42	10
6	Reference	4	1 of 10	6	9 of 42	1
7	Reference	4	1 of 10	6	34 of 42	52
8	Reference	5	3 of 10	22	19 of 42	13
9	Reference	5	3 of 10	22	39 of 42	88
10	Reference	5	0 of 10	1	36 of 42	65
11	Reference	5	0 of 10	1	26 of 42	24
12	Reference	5	2 of 10	13	28 of 42	31
13	Reference	5	2 of 10	13	21 of 42	17
14	Reference	5	3 of 10	22	19 of 42	13
15	Reference	5	2 of 10	13	30 of 42	34
16	Reference	5	3 of 10	22	32 of 42	41
17	Reference	5	3 of 10	22	24 of 42	21
18	Reference	5	3 of 10	22	33 of 42	44
19	Reference	6	4 of 10	34	27 of 42	25
20	Reference	6	4 of 10	34	38 of 42	79
21	Reference	6	3 of 10	22	35 of 42	59
22	Reference	6	4 of 10	34	35 of 42	59
23	Reference	6	3 of 10	22	34 of 42	52
24	Reference	6	4 of 10	34	34 of 42	52
25	Reference	6	3 of 10	22	26 of 42	24
26	Reference	6	3 of 10	22	38 of 42	79

* See Appendix B, Item 8 and Appendix C, Item 6 for summary statistics for original and follow-up tests.

APPENDIX C ITEM 7

ORIGINAL AND FOLLOW-UP SCORES FOR RETESTED STUDENTS *

Case No.	Test	Grade	Original Score	Original Per. Rank	Follow-Up Score	Follow-Up Per. Rank
1	Gr. & Tab.	4	2 of 10	11	19 of 41	14
2	Gr. & Tab.	4	2 of 10	11	35 of 41	73
3	Gr. & Tab.	4	1 of 10	6	26 of 41	30
4	Gr. & Tab.	4	2 of 10	11	21 of 41	16
5	Gr. & Tab.	4	1 of 10	6	25 of 41	26
6	Gr. & Tab.	4	1 of 10	6	14 of 41	6
7	Gr. & Tab.	5	4 of 10	28	34 of 41	67
8	Gr. & Tab.	5	3 of 10	19	26 of 41	30
9	Gr. & Tab.	5	4 of 10	28	19 of 41	14
10	Gr. & Tab.	5	3 of 10	19	22 of 41	19
11	Gr. & Tab.	5	4 of 10	28	24 of 41	23
12	Gr. & Tab.	5	4 of 10	28	16 of 41	8
13	Gr. & Tab.	5	3 of 10	19	25 of 41	26
14	Gr. & Tab.	5	4 of 10	28	22 of 41	19
15	Gr. & Tab.	5	4 of 10	28	13 of 41	4
16	Gr. & Tab.	5	4 of 10	28	28 of 41	38
17	Gr. & Tab.	5	3 of 10	19	35 of 41	73
18	Gr. & Tab.	5	4 of 10	28	28 of 41	38
19	Gr. & Tab.	5	4 of 10	28	19 of 41	14
20	Gr. & Tab.	6	4 of 10	28	33 of 41	61
21	Gr. & Tab.	6	5 of 10	38	22 of 41	19
22	Gr. & Tab.	6	4 of 10	28	27 of 41	31
23	Gr. & Tab.	6	5 of 10	38	8 of 41	2
24	Gr. & Tab.	6	5 of 10	38	31 of 41	48
25	Gr. & Tab.	6	4 of 10	28	19 of 41	14
26	Gr. & Tab.	6	4 of 10	28	24 of 41	23
27	Gr. & Tab.	6	5 of 10	38	18 of 41	9
28	Gr. & Tab.	6	4 of 10	28	14 of 41	6

* See Appendix B, Item 8 and Appendix C, Item 6 for summary statistics for original and follow-up tests.

APPENDIX C ITEM 7

ORIGINAL AND FOLLOW-UP SCORES FOR RETESTED STUDENTS *

Case No.	Test	Grade	Original Score	Original Per. Rank	Follow-Up Score	Follow-Up Per. Rank
1	Map Reading	4	2 of 10	17	21 of 40	35
2	Map Reading	4	1 of 10	10	11 of 40	2
3	Map Reading	4	1 of 10	10	27 of 40	68
4	Map Reading	4	2 of 10	17	18 of 40	21
5	Map Reading	4	2 of 10	17	25 of 40	61
6	Map Reading	4	2 of 10	17	14 of 40	6
7	Map Reading	4	1 of 10	10	24 of 40	54
8	Map Reading	4	1 of 10	10	19 of 40	25
9	Map Reading	5	3 of 10	29	32 of 40	91
10	Map Reading	5	3 of 10	29	21 of 40	35
11	Map Reading	5	3 of 10	29	11 of 40	2
12	Map Reading	5	2 of 10	17	19 of 40	25
13	Map Reading	5	3 of 10	29	25 of 40	61
14	Map Reading	5	1 of 10	10	15 of 40	9
15	Map Reading	5	3 of 10	29	15 of 40	9
16	Map Reading	5	3 of 10	29	23 of 40	47
17	Map Reading	5	3 of 10	29	16 of 40	14
18	Map Reading	5	0 of 10	5	18 of 40	21
19	Map Reading	6	4 of 10	44	33 of 40	95
20	Map Reading	6	2 of 10	17	17 of 40	17
21	Map Reading	6	3 of 10	29	30 of 40	82
22	Map Reading	6	4 of 10	44	29 of 40	79
23	Map Reading	6	3 of 10	29	21 of 40	35
24	Map Reading	6	4 of 10	44	22 of 40	40
25	Map Reading	6	4 of 10	44	24 of 40	54
26	Map Reading	6	2 of 10	17	16 of 40	14
27	Map Reading	6	4 of 10	44	23 of 40	47
28	Map Reading	6	2 of 10	17	23 of 40	47

* See Appendix B, Item 8 and Appendix C, Item 6 for summary statistics for original and follow-up tests.